Principle of Specificity of Training- What is This?

One of the greatest benefits of water training is being able to train all of the components of fitness in one low impact and enjoyable program. The water environment allows a client to strengthen muscles in a functional, upright position, especially in the trunk area. Performing basic oppositional motor patterns (i.e., walking and running) utilizing the water's resistance enhances functional fitness as the body stabilizes itself against resistance of the water's weight. Thus, the true power of water exercise lies in its ability to provide specific resistance in an upright and functional body position.

Fitness Components such as posture, CV, stretching, strengthening, core stability, balance, agility, proprioception and ADL's, are some of the more popular components that may be easily learned and trained in a well balanced aquatic fitness program.

The principle of Specificity (of training) literally means training that is directly specific to the task or need i.e. the basic fitness requirement for any individual.

For example the problem, your client has poor balance and has fallen several times.
Then the #1 fitness requirement is that the client needs to specifically train for balance.
Solution: The feet are the base of support in shallow water and, since water has a 3 dimensional effect around the body for support, someone with poor balance can practice balance exercises in the water safely. To do this you can use simple walking patterns to begin balance training. First start the client walking to create an inertia effect (water current) then stop with both feet in contact with the pool floor. Add sculling to support balance and posture and work on standing tall in the water.

Exercise Check: Did the current affected balance or was it easy to stand still? If the current affected balance then this is the starting point and this exercise can be repeated until the client feels confident. Once balance has been established with both feet on the pool floor the exercise can be progressed to stopping to scull and lifting one foot off the pool floor. As balance improves a further progression can be taking the hands out of the water and so on until balance has been regained and maintained.
If this individual had been trained using speed, rebounding or any higher level cardiovascular movement the training would have been totally ineffective for the specific need i.e. balance. Adding speed would not have simulated the correct training effect.

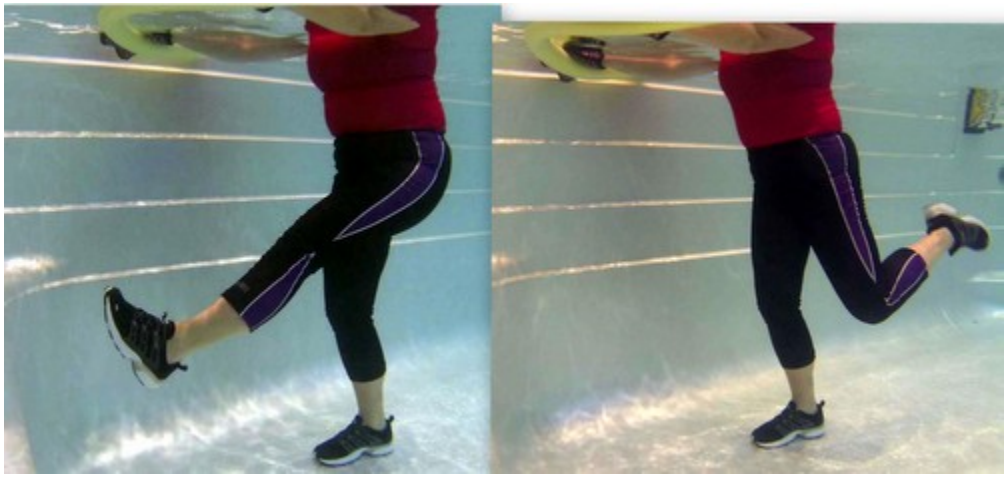
Training in water will benefit land movement but only if techniques for training a specific component of fitness is utilized. What must be noted is that water exercise techniques are unique as compared to land training because of the protection and properties of water. Research supports this concept.

Using the principles of specificity of training with good technique can make for a very efficient and well balanced workout .

For example, the main focus of cardiovascular fitness is to benefit the heart and circulatory system to prevent heart disease. Progressive overload as well as interval training of “go intense then less intense” will train a person to perform more total work while lowering resting heart rate.

Developing cardiorespiratory endurance sets or segments in water must be performed by engaging large muscle groups of the lower body muscles, dynamically or rhythmically, continuously or intermittently, at low through moderate to high intensity exercise. The exerci design needs to be more than three or more minutes in duration to utilize aerobic or with oxygen energy systems. Simply stated cardiovascular or cardio-respiratory training is trainir working on the breathing and volume of oxyegen uptake so that the heart is more efficient.

Muscular endurance is the ability of a muscle, or group of muscles, to repeatedly exert force against a given sub-maximal resistance or to sustain an isometric contraction over time. Generally measured by how many times the muscle or group of muscles can contract before reaching momentary fatigue. Programs designed to increase muscular endurance utilize lower resistance and higher numbers of repetitions.



Often In the water, most instructors do not do enough variety, sets or reps for effective muscular conditioning and therefore their clients may not reach attainable training levels. To do this effectively:

- Be sure to utilize the correct joint action to properly engage the muscle
- Body position must Power down into the resistance of the water rather than just lift up with buoyancy
- Perform at least 8 – 25 repetitions to properly train and fatigue the muscle
- Provide 1 to 2 sets for strength (with equipment) OR 3-5 sets for endurance(without equipment)
- Need to feel that the muscle is fatigued for efficacy or to hypertrophy
- Add power not just speed and don't use momentum.
- Work with a muscle is created when the movement is started & stopped in good form.
- Muscles do support good posture. Good form is working in proper body alignment & posture with good technique.
- Add active recovery or filler moves in between sets or super set (no break in between sets) for more advanced groups..

Promoting participants to exercise muscular endurance "in their target range" will help them achieve the most benefits at a reduced risk for injury.

Flexibility is the optimal range of motion around the joints and their corresponding
muscle groups without sacrificing stability or inducing pain and discomfort. The key to improving and maintaining flexibility is frequency and consistency of use. Stretch between muscle strengthening sets.

Recommendations for Flexibility:

- Stretch muscles between sets when targeting specific muscle groups.
- Work through a comfortable active range of motion throughout the work-out to maintain good flexibility. A flexible muscle is a safe

muscle since it can be strengthened throughout its length. ROM can be incorporated through the program for all exercises. Don't use land stretches, use the water for assistance and massage effect.

- Incorporate mostly active stretching techniques. You need dynamic stretching for all ADL's, (Active daily living). If you do all stationary stretching you are only training for stationary flexibility.

To sum up: The instructor's job is to help people gain results. Exercise goals must be specifically targeted or mimicked to gain the same or more results as land exercise. Therefore, the instructor is instrumental in teaching and cueing their clients to understand how to train each component for maximal results.
Moving through the water can be compared to lifting weights. The law of action-reaction applies 100% of the time in water. The more force used, the higher the resistance force applied. Water's "weight" facilitates specific ways to promote work. This type of "active" muscular endurance conditioning cannot be accomplished in a similar functional manner on variable, stationary land resistance machines. When a muscle is strengthen the opposing partner muscles is actively stretched. That is why full range or maintaining proper range of motion (versus just speed) is important to efficacy.

Here are some of the more popular components of fitness that will need to be addressed with a well balanced aquatic fitness program

- CV endurance for both aerobic & anaerobic fitness,
- stretching, active and dynamic stretching,
- muscular strengthening & endurance
- core stability,
- static and dynamic balance ,
- agility ,
- coordination,
- Proprioception,
- ADLS ,
- and posture.

Recommended Products

☐ **NEW** DVD095 -Aquatic Boot Camp (2 DVDs)
☐ KCW001-- Instructor Review (4 DVDs for 16.0 CECs)
☐ KCW003A- Intro to Aquatic Personal Training 8.0 CECs
☐ DVD039 - Awesome Abdominals
☐ DVD059 - Fun with Function
☐ DVD071 (2 Discs)Shape Up and Water Train
☐ DVD078 (2 DVDs) Entry Level Program for Non-Swimmers
☐ DVD079- Walk -Move You Way to Health -(2 DVDs)
☐ DVD090 - Arthritis Mobility & ROM Tutorial (2 DVDs)
☐ DVD091- Aquatic Rehabilitation for General Populations Tutorials (6 DVDs)