EQUIPMENT OVERLOAD

Any program designed to improve muscular endurance should apply the principle of **progressive overload**. Overload refers to the level of stress imposed on the physiological systems involved. For training adaptation to occur, the system must be systematically stressed slightly more than it is accustomed to. Applying the concept of progressive overload to muscular fitness means increasing the exercise intensity, duration, or frequency. Sets for muscular conditioning are exercises that focus on targeting specific muscular function as opposed to overloading the breathing. (cardiovascular focus). Train all the main muscle groups as isolated as possible for overload, especially: hamstrings, gluteals, latissimus dorsi, rhomboids, adductors, abductors, quadriceps, triceps, and abdominals. Training muscular fitness helps people to improve their cardiovascular level because the muscles are stronger to endure more work (duration and intensity).

Additionally, progressing your programs with water fitness equipment will help your clients gain more results. Adding new tools to your fitness training toolbox may not only add options to your existing clientele's program but an opportunity to diversify and expand the program.

Realize that there is many valuable pieces, but key to successful aquatic fitness program design is learning how to specifically program to meet the individuals needs, goals and understand that each piece has unique principles and techniques. Do **NOT** apply a one size fits all approach or a dropped in land exercise . Rather, assume that each piece requires skills to use the equipment safely.

Resistive Paddles

Hand paddles or flex paddles offer an opportunity to provide overload for upper body muscular strengthening work as well as functional fitness. Traditionally, older women are very weak in the upper body and spinal rotators. The flex paddles offer 5 levels of progression and should be added only the participant is ready to progress their strengthening exercises. The biggest feature of resistive paddles is that the shoulder may be easily submerged (as compared to buoyancy equipment that floats). Therefore, when performing upper body strength work with a flex paddle the exercises is easier to perform safely thus preventing shoulder impingement (or bone pressing to bone). The flex paddle may be utilized individually (unilateral movement or bilateral movement) for advanced core stabilizer exercises or by holding the paddle still and rotating the body. Sports moves and patterns may simulate the land activity and greatly benefit the athlete whether recreational or professional. Especially tennis, golf, hockey, squash, racquet ball moves may easily be incorporated into a fun and athletic workout. Be careful not to grip hand held equipment. Always hold lightly with the thumb and fore finger so that the circulation in the palm is not impeded.

GUIDELINES FOR AQUATIC STRENGTH TRAINING

A variety of guidelines and aquatic strength training programs exist depending upon the strength training goals. The following guidelines used by many leading aquatic professionals are well suited to those wishing to attain higher levels of strength safely and efficiently.

Selection: Choose an aquatic program that is right for your body type and fitness level.

Primary muscle groups: Perform 8 - 25 repetitions, or until targeted muscles begin to fatigue. This range may seem quite large compared to land training. However, in water there is usually a more diverse clientele.

Usually the unfit, weak, injured and fast twitch or type 2 muscle fiber participants will fatigue quicker (8 reps) whereas the endurance trained, skilled and enthusiastic participants may be able to do up to 25 repetitions.

Sets: Repeat the sequence of moves in 1 to 5 sets. Ideally provide a variety of planes of motion and variation of each muscle group targeted.

Intensity: Work the participant at his/her highest personal level rated on the exertion scale until he/she can no longer continue the move with proper form. The ideal is for the muscle or group of muscles to reach momentary fatigue.

If a participant can perform more than 25 repetitions with good posture and technique, then the starting load is too light. Ideally the participant should feel the muscle group working and be fatigued after at least 25 good reps. Typically more repetitions can be done in the water than on land. Since endurance is needed throughout a class, a regular participant's endurance is naturally trained.

Monitor Intensity: Use the rate of perceived exertion scale and ask participants how the particular muscle group feels throughout the exercise.

Review the following questions prior to programming with equipment:

- How much does the equipment cost? Is it a one-time cost?
- What type of storage will it require?
- What is the durability and care (storage)required?
- What type of equipment? (i.e. deep, shallow, Cardiovascular, balance, etc) . Is it multi- purpose design and bang for your buck equipment?
- Can you meet the exercise objective when using the equipment?
- How many skills (balance, strength, mobility) are required to use it safely?
- What is the liability, if any?
- Do you have the training and certification to qualify yourself as a professional to use the equipment?
- Is the equipment easily adapted to a group or more for individual design
- Do you know how to make the exercise easier and or harder