AQUATIC EXERCISE Part two in a Series

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Aquatic exercise is not a substitute for strength training in the weight room, dry land speed and conditioning work. It is, however, an excellent supplement to an existing conditioning program. Aquatic exercise is definitely a conditioning asset today and the exercise wave of the future.

WITHOUT APPARATUS AQUATIC DRILLS

When training in the pool, athletes should initially jog in the water for 5 to 10 minutes in order to properly increase the muscle temperature. After the warmup, it is advisable (but not mandatory) to place the athletes through a stretching routine in the shallow end of the pool. Flexibility exercises should be designed to stretch the muscles that will be primarily worked in the water. This can easily be done by adapting stretches that are done on land for the pool. Obviously, the stretches should be designed so that the athlete's head stays out of the water. The buoyancy factor of the water is a natural aid for increased flexibility.

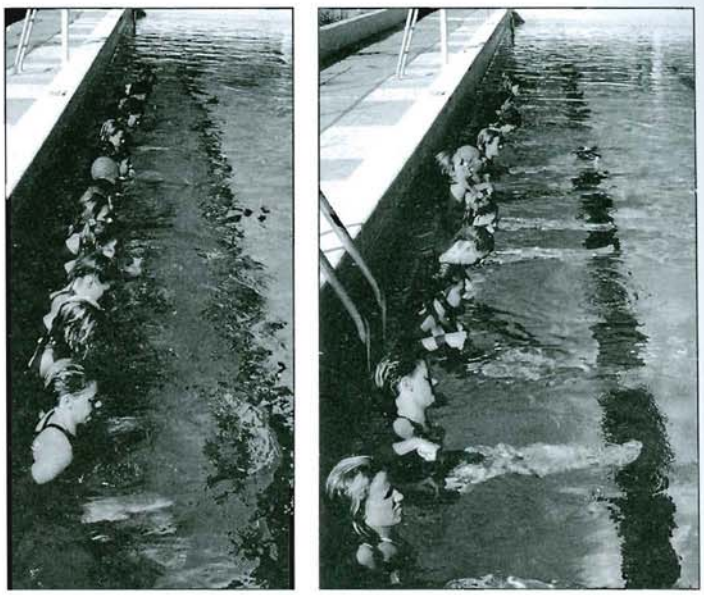
Once the athletes are properly warmed up, then they are ready to start a series of excellent drills. The drills are designed to improve speed, aerobic power, anaerobic power, and local muscle strength endurance, as well as aid in the rehabilitation of injuries. The drills include:

(1) Sustained jogging – Ideally, this is done in shoulder deep water. This is an excellent way to warm up and to develop aerobic power.

(2) Stationary leg lifts – While standing in approximately shoulder deep water, with his arms on the pool ledge, the athlete lifts one leg (keeping it locked and straight) at least waist high, while the opposite leg remains firmly planted on the pool bottom. When one set is finished, the same action is done with the other leg, then both legs together. It is suggested that this exercise be done with a maximum effort for 15, 20, 25 or 30 second sets. This is an excellent exercise for the hip flexors and abdominals on the leg lift, and excellent for the glutes on the return to bottom motion.

(3) Stationary high knees – Similar action to the leg lifts but as the athlete lifts his leg in this exercise, he bends it at the knee, lifting his knee as high as possible - alternating legs during each set. This exercise should run for the same time span as the stationary leg lifts. This exercise is an excellent workout for the hip flexors on the lift and the glutes and the hamstrings on the return.

(4) Stationary "butt kicks" – This is performed with the athlete facing and holding onto the side of the pool.



Jacksonville University Volleyball Team Demonstrating Stationary High Knees (left) and Leg Lifts (right).

In a rapid motion, the individual alternates lifting his legs so that the heels of each leg hit the buttocks. This is done with the knee of the bent leg pointing down. Once again, this exercise is done in 15, 20, 25 or 30 second sets. The hamstrings receive and excellent workout during the "butt kicking" motion of this drill, while the quads are exercised on the return motion to the pool bottom.

(5) Leg abduction – adduction – This is an excellent drill for lateral movement enhancement. With his back to the side of the pool and legs straight out, so his body is bent at the waist at a 90-degree angle, the athlete opens (wide as possible) and uses his legs. This is done with full force, working the abducting and adducting muscles of the legs. Sets of 15, 20, 25 or 30 seconds should be done.

(6) Stationary jumps – Standing in approximately chest deep water, the athlete squats so that his lower leg and upper leg form an approximate 90-degree angle. This will almost certainly require the athlete's face to be submerged in the water. While squatting, the athlete has his arms at his side, then by pushing off the pool bottom, propels his body through the water into the air - using the same type of movements we would on land. At the peak of his jump, the athlete's hands should be outstretched above his head. This is an excellent

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complimentary drill to vertical leap performed in 15, 20, 25 or 30 second sets.

(7) Power skips – This is a high knee action in which the athlete moves his legs as rapidly as possible, lifting his knee as high as possible (exaggerated skipping motion). As this takes place, the leg that is up has its foot beside the opposite knee and its toes pointing down. This drill serves as a hip flexor and glute strengthener. It also enhances leg drive and is an excellent sprinting technique teaching drill. Depending on the length of the shallow section of the pool (or width), the power skips should consist of trips 10 to 20 yards.

(8) Moving "butt kicks" – This exercise is performed the same as the stationary "butt kicks" but the athlete has good hand and arm action while leaning and moving forward in the water. As in the power skips, segments of 10 to 20 yards should be performed.

(9) Lateral slides – Standing with his body perpendicular to the pool side, the athlete plants his outside foot on the pool bottom and then uses his outside leg to thrust himself laterally across the pool, reaching out at the same time with his other leg. This is to be performed as rapidly as possible. Once the athlete reaches the end of his trip, he returns, using the other leg to thrust his body across the pool. This is an excellent lateral movement drill and strengthens the muscles responsible for this type movement. As in the moving power skips and butt kicks, this drill should be done in trips of 10 to 20 yards.

(10) Forward jumps – Performed with a similar action to that of the stationary jumps, but in this drill, the athlete concentrates on travel up and out instead of just up. Again, as rapid as possible movements are important. This drill is also performed in 10 to 20 yard segments.

(11) Backward sprinting – In this drill the athlete uses his legs to drive himself backwards. This is accomplished by pushing off from the bottom of the pool with one foot at a time, with full force. After the leg is used to thrust the body backward, it is lifted with the knee bent so that the knee is above the waist. The athlete's arms act as pistons, working in conjunction with the leg opposite of it (i.e., right arm, left leg). This is an excellent drill for sprinting and really taxes the glutes but also works the hip flexors. 10 yard to 20 yard segments should be performed.

AQUATIC EXERCISE "Excellent For Teaching Sprinting Technique."

Marianne Kasel Jacksonville University Volleyball Demonstrating Abduction-Adduction Drill.

J.U. Volleyball Players Power Skipping Across Pool.

Diane Fahmie and Farley Snow Performing Stationary Jumps (Blocking Drills).