AQUATIC CROSS-TRAINING

Aquatic cross-training is one of the many spin-offs resulting from the increased interest in water exercise and therapy. Although cross-training traditionally has been viewed as a way to help injured athletes recover their strength, many coaches and therapists are prescribing water exercise to condition their athletes and prevent sports injury.

Athletes from a variety of sports disciplines are training in the water, from members of the San Francisco '49ers and Minnesota Viking professional football teams to heavyweight boxer Evander Holyfield, said Joe Krasevec, acting director of recreational services, Georgia State University. "My opinion is that cross-training as we know it really didn't come about until the advent of the triathlon," said Dr. Tom Griffiths, director of aquatics, Pennsylvania State University. "Many good runners and cyclists who were not swimmers were forced into the water by the third event. Now we see many more people working out in the pool," he said.

Griffiths said the two main groups of athletes who use aquatics for sports conditioning are runners, whodo deep-water jogging with the assistance of buoyancy vests or belts and pole vaulters, who practice their jumps in the 14-foot deep diving well. "The athletes can slow down their motions and really analyze their technique while they are suspended in the water," he said. "They water-run around the perimeter of the diving well, ---- -- using a buoyancy device. They're in there all the time."

In addition to sports conditioning, a lot of gifted athletes who are injured are swimming because it's the only thing they can do. The water buoys them up, so they're not placing stress on their injured joints. The rehabilitating athletes who participate most often are basketball players with back problems and football players suffering from knee and hip injuries.

Aquatic exercise and therapy is so effective in the rehabilitation of sports injury that the Pennsylvania State University football team training room features a hydrotherapy exercise tank. The athletes are tethered on all sides into the tank-like device, so they cannot sink into the water. Warm water and jets also enhance the athlete's exercise regimen. Most other therapy and cross-training activities, however, do not require special equipment other than flotation devices.

Strength and flexibility are specific to the angle at which you work your muscles, and cross-training is good because it works the muscles at many different angles. The water's psychological effects are key. If you're going to exercise, you have many different activities to choose from. When you're out jogging, you have all of these environmental stresses working against you. A jogger running in the city has to deal with noise pollution, dodging dogs and cars, breathing in unhealthy fumes and pounding the pavement at every step. This may impede the physiological response to exercise. A body of water induces a relaxation response in the mind. In a relaxed environment, the body more fully responds to exercise.

There are a couple of reasons to use equipment. In a general fitness class, it adds variety. And because athletes tend to need more power development, resistance equipment is used to increase the surface area of the body and give greater challenge to the muscles.

Lynda Huey, founder of Huey's Athletic Network, Santa Monica, California, has written a book that describes how many types of water exercise equipment can be used for sports-specific aquatic cross-training and conditioning. For example she may incorporate flotation devices for deep water exercise, tethers to maintain form and location in the pool and devices such as boots or webbed gloves to increase resistance. With a clientele that includes actress Cybill Shepherd, singer Paula Abdul and tennis player John LLoyd, Huey must develop a variety of aquatic workouts that accommodate varying levels of conditions and exercise goals.

Huey began developing her approach to aquatic conditioning while she was a coach at the University of California at Los Angeles. "I was working with runners who injured themselves during training for the 1984 Olympics. It became big news and received national media coverage. I had to figure out how to use the water to keep the athletes fit while avoiding further injury," she said.

She uses aquatic therapy extensively for rehabilitation and has been particularly involved in aquatic training for sport-specific conditioning. Often, Huey's routine for an individual closely mirrors in the water movements the client will make on land. She gives baseball players a bat to practice their swings in the water and tennis players a racket to work on their strokes. She uses water to develop symmetry in the body. Instead of developing only the right side of the body, swing in the other direction in the water, to develop strength training and coordination training.

To involve athletes in this type of cross-training, coaches don't need any special aquatic equipment. Just get them in chest-deep water and have them start doing their sport. One martial arts expert had knee problems and began practicing his kicks in shoulder-deep water. In two months, the difference in flexibility was unbelievable. In the water, the flotation lets you practice the exact form of that kick. The buoyancy of the water helps you maintain the form. If you make the same movement every time you kick, the body memorizes it. After becoming accustomed to kicking underwater, he found that kicking on land feels practically effortless. In the water, you can learn to kick properly for long periods of time without exhausting yourself.

Although aquatic training for sports conditioning is relatively new, rehabilitation programs have longutilized hydrotherapy. Therapists continue to refine their approach to aquatic exercise, taking advantage of the water's low gravity and high resistance to cross-train their patients into greater on-land capability. Aquatic therapy is very important in the initial phase of rehabilitation treatment. Due to the warmth and buoyancy of the water therapists can do a lot more than they can do on dry land. Using aquatic therapy initiates the rehabilitation process much sooner and accelerates healing.

Right now the whole process of conditioning is going through transition. Efforts are being made to look for new ways to cross-train, to accelerate performance and decelerate the risk of injury. Aquatic therapy is growing more in popularity and usage. Almost any orthopedic problem can benefit from aquatics, because of the gravity-reduced environment, which decreases the load on the joints and provides resistance. The combination makes it almost limitless, in terms of what can be done.

Patients who have difficulty walking on land, can benefit from practicing gait patterns in the water. Those who need to increase their aerobic activity without further stressing their joints can get the desired effect from deep-water jogging with a flotation vest. Other equipment sometimes used include kickboards and hand paddles for increased resistance. When people get used to deep-water jogging in a flotation vest they enjoy the water as they never have before in their lives.

Safe sports conditioning and rehabilitation programs must be a special concern of any aquatic director. Many athletes who come into a pool for cross-training are over-confident. They think they don't need assistance and don't need anyone watching them. But always have a lifeguard on duty. Another technique recommended to guard against overzealous participants is to use a buddy system, in which two athletes exercise together and help watch out for each other. Precautions against injury during exercise also must be taken. It's not likely that athletes are going to be injured by working out in the water, unless they do an overextension or overuse any of the muscle groups. Proper water footwear to prevent slipping and the use of a flotation device for support also may further reduce the risk of injury. Respect for the water is one of the best ways to prevent injury during aquatic dross training. Some land-based athletes, may not think the pool is a challenging environment, so an instructor must instruct them on appropriate movements and watch that they do not strain themselves particularly round the hip flexors.

Not all program can cater to elite college or professional athletes and entertainment stars, but the same techniques can be used in programs to provide the benefits of aquatic sports conditioning to young athletes and fitness center patrons. Particularly through certification with a water fitness or exercise association and attending coaching and sports conditioning seminars, aquatic professionals from smaller organizations can learn and emulate the techniques utilized at larger or better established programs.

There are a lot more organizations, books and newsletters dealing with aquatic conditioning. The amount of information out there is just incredible; it's an explosion. Starting a sports conditioning program need not be complicated. Coaches whose athletes are cross-training, rather than rehabilitating, can just put their athletes in chest-deep water and get them to do the motions of their sport. By taking ideas from others and educating themselves about cross-training for sports conditioning, aquatic professionals can help build this new trend in high school, college, professional and amateur sports programs. Once incorporated into athletic programs, this new form of cross-training may help reduce the chance an athlete will suffer a career-ending sports injury.