



Physical Therapy and Wellness News . . .

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The Benefits of Aquatic Physical Therapy for Rehabilitation

Aquatic therapy is physical therapy performed in a pool setting that utilizes the characteristics of water to assist patients in healing and exercise performance. It can serve as a great adjunct to traditional land-based therapy, allowing patients to heal faster. The efficacy of aquatic therapy rests largely on the physical properties of water and the skilled intervention of a physical therapist. These properties include buoyancy, viscosity, hydrostatic pressure, and temperature. Aquatic therapy programs are developed by a qualified physical therapist with the specific patient in mind. Patients with osteoarthritis, sports injuries, stroke, joint replacements, and lower back pain can find great relief in a pool setting. A pool therapy program can be a very effective way to rehabilitate from an injury or illness with reduced stress on the joints.

The physical properties of water allow for an environment that can be especially therapeutic for patients with a multitude of different diagnoses. First, buoyancy assists in supporting the weight of the patient and reduces the amount of weight-bearing on the joints. This, in turn, decreases the pressure on the spine, hips, knees, and ankles. Depending on how deeply a patient is submerged, weight-bearing forces can be reduced by up to 75%. For many patients, buoyancy is what makes the aquatic therapy process so successful. For example, patients with osteoarthritis or weight-bearing restrictions will have less compression on their joints, allowing for easier movement and decreased pain. This is also helpful for people experiencing lower back pain and sciatica. Oftentimes, by reducing the compression on the spine, patients will experience less nerve and lower back pain. By diminishing the strain on many joints in the body, patients are able to perform strengthening exercises with much less pain and discomfort than may be encountered in a traditional land therapy setting.

Viscosity refers to the resistance that water can provide and is what accounts for the ability to strengthen muscles in an aquatic environment. Moving within the water

creates a force that muscles must work against, similar to that which can be provided by using weights or elastic bands in a clinic setting. In addition, quickening the speed of the movement can increase the turbulence of the water, thus providing more resistance. This is beneficial for a patients recovering from sports injuries or neurological conditions such as stroke, Parkinson's disease, and multiple sclerosis. Physical therapists will also utilize aquatic exercise equipment such as, kickboards, dumbbells, and ankle weights to make exercises more challenging.

Hydrostatic pressure and temperature are two other characteristics of water that help make aquatic therapy so effective. Hydrostatic pressure decreases swelling and improves awareness of the body in space. As a result, patients with swollen, painful joints will likely see reduced swelling. It is also possible for patients to see improved balance due to the support water can provide. A patient who requires a walker or cane outside of the pool can move more freely and with less external support in a pool environment. In addition, aquatic therapy is generally performed in pools with a water temperature between 82 and 88 degrees. The warmer temperature allows for improved blood flow and better relaxation of the muscles, helping to make the pool a more comfortable therapeutic atmosphere for many patients.

Aquatic therapy is an excellent treatment option for patients with sports injuries, arthritis, neurological disorders, chronic pain, and many other diagnoses. Aquatic exercise works especially well when performed in conjunction with a land-based therapy program. Oftentimes, patients who utilize both physical therapy settings recover faster and have a better therapy experience. Aquatic therapy, however, is not for everyone. Patients with cardiac disease, infection, open wounds, or bowel/bladder incontinence are not appropriate for the pool setting. For many patients, however, water can serve as a great tool for helping to improve strength, balance, flexibility, and overall function and independence.

By Katy Mercurio, DPT, CSCS at Peak Physical Therapy

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