

*Summary of the April, 2011 Program*

## “Let’s Talk About Aquatic Therapy Water – The Essence of Life”

Program by Fred Shirley, M.S., P.T., C.E.A.S.  
Citrus Memorial Health System

Mr. Shirley’s presentation for April asked, “Why are you looking at aquatic therapy?”

If you are looking at an aquatic program, you are looking at getting in water and exercising.

Musculoskeletal disorders are seldom caused by a single event or injury. Most problems are a result of wear and tear over the years. This is an accumulation effect. For example, post polio syndrome does not cause type II diabetes. A sedentary life style and weight gain contribute. Exercise breaks down body fat. You can exert just as much energy in water and maybe more than you can with a land based program and you don’t have to sweat.

The following are factors of wear and tear:

- Post Polio Syndrome
- Arthritis (osteoarthritis or rheumatoid)
- Avascular Necrosis
- Pain
- Congenital Dislocation or Subluxation fracture/ trauma
- Infectious Diseases such as Tuberculosis or Pyogenic Arthritis
- Metabolic disorders such as Paget’s Disease or Sickle Cell Anemia
- Neurological diseases such as Parkinson’s

A good diagnosis comes from a good evaluation. Gravity effects us, we need to challenge it. We need to find out what’s weak, strong, tighter or looser in order to determine what type of exercise is needed.

There are different stages of joint injury. A change in posture can cause pain in non-related parts of the body. You need to communicate with your doctors in a way you can understand. “Where do I go from here?”

The options for treating pain are medications such as NSAIDs, physical therapy, aquatic therapy, injections and as a last resort, surgery.

Physical therapy includes therapeutic exercise, either land based or aquatic, manual therapy, modalities, assistance devices and patient education.

Treatment is a balancing act between activity and rest. Managing pain is a balancing act because pain increases proportionately to activity and movement. Programs should be individualized to a person’s strength and weaknesses. Aquatic therapy is low impact.

The physical properties of aquatic therapy include:

Buoyancy

The Archimedes Principle: which is upward thrust is equal to the weight of the fluid displaced.

Pascal's law: the hydrostatic pressure which is the fluid pressure exerted equally on all surfaces of an immersed body at rest at a given depth.

Relative density: if an object is denser than water, it will sink. This is the fluid resistance's force that opposes the motion of an object.

Turbulence: random motion of the water as it responds to a disturbance. ( A community pool has turbulence).

The benefits of aquatic therapy:

- Increased cardiovascular function
- Rate of motion and flexibility
- Increased balance and coordination
- Pain modulation
- Decreased edema
- Improved posture and trunk stability
- Promotes relaxation
- Improved metabolism
- Increased circulation
- Respiratory benefits
- Improved kidney function

Aquatic therapy is not appropriate for everyone. You should get medical clearance before starting a program. People with cardiac precautions, certain medications, skin infections, rashes, open wounds, sores, stitches, contagious diseases, allergies to pool chemicals, urinary tract infections and incontinence will prevent you from choosing aquatic therapy.

Water temperature is a matter of personal preference. The recommended range for aquatic therapy is 85 degrees to 94 degrees and for those with PPS, 90 degrees to 92 degrees. Cool water taps energy quicker while water that is too warm can cause overheating and heat exhaustion.

Other factors include going down steps, which may not be a big factor, however going back up the steps can be a problem.

You should pay attention during aquatic therapy. How many reps should you do of each exercise and how long should you remain in the water? Keep a log of these items.

The ultimate goal it to be able to challenge gravity by doing land based exercise therapy.

Participating in aquatic or land based therapy is also important as a socialization tool and to give you something to look forward to.

Summary submitted by Sharon Daszczyński  
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