

BENEFITS OF AQUATIC EXERCISE

WHAT IS AQUATIC FITNESS?

Aquatic Fitness is defined as activities performed in the water that promote and enhance physical and mental fitness. Aquatic Fitness is typically performed in a vertical position in shallow and/or deep water. There are numerous applications to appeal to a wide variety of participants.

The water's unique properties allow the pool to provide an environment for people of all abilities. Buoyancy creates a reduced impact exercise alternative that is easy on the joints, while the water's resistance challenges the muscles. Water lends itself to a well-balanced workout that improves all major components of physical fitness -- aerobic training, muscular strength and endurance, flexibility and body composition.

Shallow water programming is performed in waist to chest depth. The feet remain in contact with the pool bottom during most of the workout providing a low impact training option. Deep water programs, on the other hand, are performed in water depths that allow the participant to remain vertical (upright) and yet not touch the bottom. Flotation equipment is utilized to maintain correct alignment and provide a truly non-impact workout.

AQUATIC EXERCISE IS JUST LIKE ANY OTHER FORM OF EXERCISE... IT IS WHAT YOU MAKE IT! HOW CAN I BENEFIT MOST FROM AQUATIC FITNESS?

REMEMBER F.I.T.! In order to obtain the most benefits from any exercise program, you must have a F.I.T. program:

FREQUENCY: Exercise at least 3 to 5 times a week. Some people exercise 5 to 7 times per week, but we suggest at least one day of rest per week.

INTENSITY: Every time you exercise you need to achieve the same intensity level gradually, over weeks, increasing that level to improve your fitness level especially for cardiovascular benefits.

TIME: When you exercise, the duration of your workout should range from 20 to 60 minutes. For cardiovascular benefits exercise at a moderate intensity level, should be maintained for 20 to 45 minutes.

VARY YOUR WORKOUT! The type of workouts you participate in helps to determine the types of benefits you achieve. Because different muscles are used in different activities you should participate in several types physical fitness benefits. There are many types of water exercise classes to address the different physical fitness components. Try getting involved with several different classes, altering your workouts.

LAP SWIM

WATER AEROBICS

WATER WALKING

PUBLIC SWIM

The Enumclaw Aquatic Center offers several different opportunities for Aquatic Exercise; there is something for the whole family. Water exercise provides a Safe, Effective and FUN option for all ages and all abilities. So jump in and begin enjoying the benefits of this exciting fitness option that is making a splash!



LAP SWIM

Lap Swimming - This is a common form of swimming exercise. Lap swimming can be done using different strokes and is an option for fitness exercise. You can start off with one or two laps so that you can complete without straining. Gradually the number of laps can be increased.

The Strokes

A swimming stroke involves the movement of arms and legs, which in turn propels the swimmer forward. When swimming a stroke, the movement should be smooth and not jerky. Heavy splashes should be avoided when swimming using a particular stroke. Some of the popular swimming strokes are:

Free Style: This style does not limit itself to any particular technique. It is commonly called front crawl.

Breaststroke: This style has a particular technique that must be strictly followed. The shoulders must be kept in line with the water; arm and leg movements must be pushed forward together and brought back under the surface of the water. It involves frog-kicking alternates with a simultaneous movement of the arms from a point in front of the head to shoulder level.

Butterfly: This stroke evolved from experiments with breaststroke. The stroke involves the dolphin kick with a windmill-like movement of both arms in unison. When swimming the butterfly stroke, the swimmers must keep their shoulders in line with the surface of the water, and make arm and leg movements together.

Backstroke: Swimmers remain on their back and this stroke involves alternate over-the-head arm strokes and a flutter kick in a supine position.

Benefits of Swimming Strokes

- Controlled breathing, which leads to developing your lung muscles and overall aerobic fitness.
- Arm pull action which will build your triceps, shoulders, chest and back muscles, rolling torso that is vital in building the abdominal muscles.
- Building all leg muscles.

WATER AEROBICS

SHALLOW WATER AEROBICS

Shallow water aerobics is performed in 3-4 feet of water where the water is waist high. Feet remain in contact with the pool bottom during most of the workout providing a low impact training option.

- A body immersed to the waist bears approximately 50% of its body weight.

DEEP WATER AEROBICS

Deep water programs are performed in water depths that allow the participant to remain vertical (upright) and yet not touch the bottom. Flotation equipment is utilized to maintain correct alignment and provide a truly non-impact workout.

- A body immersed to the chest bears approximately 25-35% of its body weight.

Aerobics classes are scheduled in one hour segments but the length that a participant works out is up to you. Water aerobics can conform to almost any individual needs, abilities or restrictions. You can adjust the size and speed of your movements to change the level of exertion that best fits your needs. Water aerobics allows every joint and muscle to be used at the same time. Water aerobics can be done no matter what your age, weight or physical fitness level is because water keeps the body buoyant and therefore does not unduly stress the joints and muscles. When doing water aerobics, it is the water, not your legs, that supports your weight. This fact does make water aerobics or other types of water exercise wonderful for people who have suffered orthopedic injuries.



WATER WALKING

Water walking is a great way to begin your aquatic exercise. It is recommended that a participant spend 5-10 minutes warming up the body and 5-10 minutes cooling down the body. Water walking is a good way to get your body used to the effect that water has on the body as well as a low impact cool down for a tough workout.

Water walking is an independent activity that can have many variations. A participant can walk as slow or as fast as they would like. There are several pieces of equipment available to help boost your workout that includes kick boards, dumbbells, and ankle weights.

PUBLIC SWIM

Public swim is a great opportunity for participants to come in with the family and/or friends and enjoy a fun time and a workout as well.

Just being in the water causes you to exercise. Every move you make in the water has to be deliberate to resist the continual pressure of the water on your body.

WATER RESISTANCE

Because the water is a thicker medium than air, by moving in the water the amount of resistance from the water can range from 4 to 44 times that of air. Using the resistance of the water in exercise is like exercising with weights or machines on land, but safer.

BUOYANCY

In chest deep water, approximately 90% of your body weight is buoyant; therefore you really are bearing only 10% of your weight when you exercise. Exercise in the water is much safer on your joints and muscles; virtually stress-free.

WATER TEMPERATURE

The water temperature is the same all year long. You do not need to contend with the variability of the elements; heat, cold, rain, snow, etc.

COOLING EFFECT

Because of your constant movement in the water, cool water is continually moving around you, washing away your sweat and cooling you while you are exercising. You never feel over-heated and sweaty.

MASSAGING EFFECT

The hydrostatic pressure; the pressure of the water on your body, joints, muscles and internal organs, massages and comforts your body while you exercise. You never feel fatigued.

Public swim is a good way to get children in the water and exercising and they don't even know it. Public swim sessions or set in one hour blocks and the kids are having fun the whole time, it is a great way for the family to exercise together.

LESSONS

Many people get discouraged because they simply do not know how to swim properly in order to get a good workout. The Enumclaw Aquatic Center offers private swim lessons for adults, by adults, that simply want to learn how to swim effectively to get a great workout.



WATER EXERCISE IS BENEFICIAL FOR...

OSTEOPOROSIS

Osteoporosis, a degenerative disease commonly referred to as adult bone loss, is associated with 1.5 million bone fractures (generally of the hip, spine or wrist) each year. Research indicates that shallow water aquatic exercise is a viable method for building and maintaining bone mass. It appears that in spite of the reduction in body mass that occurs in shallow water exercise programs, the viscosity of the water offers adequate resistance to produce positive results. Water exercise can also enhance balance, coordination, posture and performance skills thus reducing the risk of falls and injury. [References: AEA Aquatic Fitness Professional Manual and AEA Aquatic Fitness Research Journal, 2005, Volume 2, Number 1]

ARTHRITIS

It is estimated that some form of arthritis affects 37 million Americans. Arthritis refers to more than 100 different diseases that affect areas in or around the joints. The disease also can affect other parts of the body. Arthritis causes pain, loss of movement and sometimes swelling. Osteoarthritis affects the cartilage of the joints and is seen most often in the weight bearing joints of the body such as the spine, hip, knee and ankle. These is often referred to as the “wear and tear” arthritis, however exercise, is highly recommended to increase muscular strength and flexibility, which will ultimately lessen the load placed upon the joint. Rheumatoid arthritis is an autoimmune disease in which the joint lining becomes inflamed, particularly affecting the smaller joints such as the hands, wrists, ankles, feet and neck. This is one of the most serious and disabling types, affecting mostly women. Water exercise – water walking, low impact aerobics, Ai Chi, Yoga, deep water training, etc – is highly promoted by health professionals and medical professionals. The Arthritis Foundation encourages water exercise as one of the best activities for individuals of all ages who have arthritis symptoms. [References: The Arthritis Foundation and Fitness Empowerment of Active Adults - FEOAA]

MENOPAUSE

Women experiencing menopause will benefit from a regular exercise program, and the water provides a comfortable and enjoyable fitness option. The Melpomene Institute reports that physical activity does seem to help even the most difficult of menopausal experiences. Physiologically, everything that gets worse with aging can improve with exercise. Three significant benefits related to menopause that a woman will obtain through regular exercise are listed below. [Reference: Joyce Hannah, MA, MS, FEOAA Newsletter, Vol. 5 Issue 3, Summer 1998]

- Maintain muscle mass and bone density.
- Maintain a healthy weight.
- Stimulation of HDL (good cholesterol).

PREGNANCY

Besides that fact that women will feel safe with regard to falls and trauma during exercise, the warm water will offer a pleasant, safe and relaxing environment. With immersion in the water, there is a reduction of the physical weight distributed to the joints. Also during pregnancy, the water may be more suitable than land-based training for prevention of overheating during exercise. Water exercise has been shown to reduce swelling often associated with pregnancy, improves circulation, provides a balanced workout, and enhances balance, coordination and posture. A pregnant woman should consult her primary caregiver regarding her exercise limitations.

BACK PROBLEMS

Eighty percent of the adult population will experience, or has already experienced, back pain at some point in their life. Back injury is a leading cause of lost productivity on the job. Prevention, rather than treatment, should be the goal, and the aquatic environment is the perfect place to develop a strong, well conditioned back. Research indicates that deep water training to be a beneficial training option for individuals with low back pain. Deep water is a non-impact environment and significantly reduces the compressive load on the spine. Deep water is also very effective for training the core muscles, which is important for proper alignment, good posture and back health.

[Reference: AEA Aquatic Fitness Professional Manual]



HOW IS WATER EXERCISE DIFFERENT?

BUOYANCY

In the water your body is buoyant and the impact to the joints during exercise is significantly less than on land. Depending upon the water depth, your body “weight” is reduced in the pool due to lessened gravitational forces.

- A body immersed to the neck bears approximately 10% of its body weight.
- A body immersed to the chest bears approximately 25-35% of its body weight.
- A body immersed to the waist bears approximately 50% of its body weight.

RESISTANCE

Muscles must work against resistance to become developed and toned. Water provides substantially more resistance than air, because water is more viscous than air, making each movement in the pool more challenging to the muscles. Also, muscles typically work in pairs; i.e. biceps & triceps or quadriceps & hamstrings. When you move your body, or your limbs, through the water you are always encountering resistance. This helps to provide a more balanced workout as opposing muscles are involved, unlike on land where you typically need to reposition the body, or select a separate exercise, to provide adequate stimulation to both muscles of the pair.

COOLING EFFECT

Water cools more efficiently than air, so when exercising in the water the body is able to eliminate excess heat more effectively. This is not to say that you will not sweat during a workout in the pool, but water helps prevent overheating and washes away the perspiration as you exercise. Because the water cools the body quickly, it is imperative that you begin every workout with a “thermal warm up” designed to elevate the body’s core temperature, warm the muscles and prepare the joints for the increased workload to come. Even at the recommended temperature of 83-86 degrees Fahrenheit (28-30 degrees Celsius), a proper warm up is necessary to prevent injury and provide comfort. *NOTE: Special populations and specialty training may require deviations from this recommended range.*

HEART RATES

Heart rate responses differ when exercising in the water than when exercising on land. Typically, aquatic exercisers experience a reduced heart rates response (i.e. lowered pulse rate), but the water should not be considered less effective. Studies have shown that oxygen consumption (the true measure of the cardiovascular benefits) is comparable to a similar program on land, although the heart rate response is lower. Several factors, some of which have been previously mentioned, influence the exercising heart rate when submerged in the water to mid-chest:

Lessened gravity allows a more efficient return of blood to the heart from the extremities.

The cooling effect of water reduces the workload on the heart. (One function of the heart is to keep the body cool during sustained exercise.)

Hydrostatic pressure, the pressure that the water exerts on the body while submerged, assists in blood flow and improves the exchange of oxygen into the blood.

HOW DOES WATER EXERCISE COMPARE TO LAND EXERCISE IN REGARDS TO CALORIE BURNING?

As on land, there are several variables that affect caloric consumption during vertical water exercise. Variables include:

- Water depth in which the person is exercising. Speed of movement through the water.
- Amount of force applied (how “hard” you work) to movements. Length of the person’s limbs.
- Environmental factors such as water temperature, air temperature, humidity, etc.

On land, weight bearing is a primary factor for increasing calorie consumption, but in the water it appears that using the water’s resistance is more of a factor. Based upon the finding of a study that compared energy expenditure (calories burned) for upper and lower body exercises performed in the water and out of the water (Cassedy 1992), one can estimate that combining upper and lower body movements in the pool would expend somewhere between 400 and 500 calories in a one hour class. This is comparable to running or walking at 10-11 minutes per mile.



COMMONLY ASKED QUESTIONS

WHAT IS THE PURPOSE OF WEARING SHOES WHILE EXERCISING IN THE WATER?

Although impact is greatly reduced in the pool, you will still experience some impact stress to the weight bearing joints of the body (unless you remain in a suspended position, such as deep water exercise). Therefore it is recommended that you wear shoes for added cushion, shock absorption and comfort during bouncing movements. Shoes also provide ankle support, which is important in programs that include twisting or turning activities. Footwear can also protect your feet from rough surfaces -- whether the pool bottom, pool deck or locker rooms; this is critical for individuals with diabetes. Pregnancy women are recommended to wear shoes to provide additional support as well as to prevent slipping and possible falls. The best news -- water shoes can make your workout more effective!

DO I NEED TO BRING DRINKING WATER TO MY AQUATIC FITNESS CLASSES?

Yes. Even though the water cools the body more effectively, you will lose fluids from perspiration during a vigorous aquatic program. To prevent overheating and related problems (muscle cramps, heat exhaustion and heat stroke) it is suggested to drink water before, during and after exercise. Keep your water bottle handy at the side of the pool and your workout can continue uninterrupted.

WHAT IF I CANNOT KEEP UP WITH THE REST OF THE CLASS DURING THE EXERCISE PROGRAM?

First of all, this is YOUR exercise class and you need to feel comfortable listening to your own body's needs and abilities. Pace yourself and do not be afraid to do things a little differently. Also, make sure to select a class that is appropriate for your abilities. Most facilities offer a variety of programs -- from special needs to advanced fitness. Observe different classes and find the one that is right for you. Also, make sure that your instructor is properly trained and certified. The instructor should be able to assist you with making necessary modifications without feeling "singled out" from the group. And finally, as you continue to exercise you will see your energy, enthusiasm and abilities continue to advance!

I LOVE EXERCISING IN THE WATER, BUT MY SKIN GETS SO DRY. WHAT CAN I DO?

The best way to prevent dry skin is to drink -- yes, drink -- plenty of water every day. However, being submerged in the pool for an hour or more will tend to dry the skin. Do NOT put on lotions (except waterproof sunscreens) before your class; it will simply wash off, waste your money, and adversely affect the pool's water quality! Immediately after class, shower and apply a good quality moisturizing lotion to your damp skin (now is a good time to moisturize the hair too). Your swim suit will also last longer if you rinse thoroughly immediately after exercising in the pool, chlorine and other chemicals necessary to provide a safe environment will gradually deteriorate the material of your suit. Products are available to help remove the chlorine residue from your skin/hair and suit, and some companies' manufacturer chlorine resistant swim wear/exercise wear.

I AM YOUNG AND ATHLETIC - CAN WATER EXERCISE REALLY PROVIDE THE WORKOUT I NEED?

Definitely! Water fitness programming has progressed and diversified over the past several years, which is one of the reasons, we are seeing such a big "wave" of participation. Although a significant part of the workout intensity is up to the individual (i.e. you can employ various training principles to alter the intensity), the type of program selected is also very important. Most facilities offer a variety of options for water exercise participants -- just as they do for land-based group exercise. Check out aquatic programs featuring Kick Boxing, Sports Specific Training, Intervals, and Circuits. Or, if you prefer the one-on-one approach, consider aquatic personal training to more specifically target your goals and needs. And don't forget, specialized aquatic fitness equipment can further enhance your training results.

