

# The Fitness Journal

## Hydropower Water Workouts

### What's New at Hydropower

#### Article Highlights:

- IAFC Update
- Trainer Referral Program
- New Workshop Ideas
- Aquatic Fitness Assessment DVD

#### Newsletter Highlights:

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Hydropower Water Workouts has a busy summer ahead. We are launching new programs, creating new workshops, and developing new products and videos.

We want to start by letting everyone know that IAFC was a blast. As always, there were many great presenters and a lot of great ideas and research shared. If you did not get a chance to go this year, you will want to make plans to attend next year in San Diego. We hope to see

everyone there.

We are launching our latest program today. We have set up a **free** system to allow for trainers to set up their own personal web page. The idea behind this is to allow for other trainers and clients to locate trainers in a particular region of the world.

As always, we are looking for your input for topics for new workshops. If you have ideas, please e-mail them to us.

We now have the Hydropower Aquatic Fitness Assessment DVD available on the web site. The disk contains the lecture, trainer script, video of an assessment, power point presentation, assessment charts, and additional resource material to help fill out the charts. See the web site for a course description.

Have a wonderful and productive summer.

### Programming Ideas: Research based programming

There has been a lot of research out there that could affect the way we design our classes and workouts. This month I just want to touch on a wide variety of topics to get you thinking. Over the next few months, we will be taking each of these topics and discussing them in more detail.

The first issue we want to talk about is some new research on osteoporosis. The new research out there is showing that impact activities at an interval of 10 seconds will have a greater increase on bone density than impact activities such as regular walking or jogging. How does this translate to practical application? Basically, all you need to do is add a bounce jump, stomp, or anything that can be considered an impact movement at a rate of 1 every 10 seconds. An example would be a level 1 cross country ski with one ski with power (jumping bringing the knees up and then pushing the feet to the bottom of the pool

with force) every 10 seconds. Another topic of research focused on the actual workout structure. Research is showing that there is not necessary an ideal training protocol to follow for long term gains. The best protocol is actually no set protocol. Variety in your training technique is going to benefit your client the most over time. This prevents someone from adapting to a workout and keeps the body's systems continuously overloaded with different stress or stimuli. Remember that in order for client to keep making progress, we must keep overloading the systems through progressive overload.

Also, keep in mind that up to 90% of strength gains are going to be made on that first set with the next highest percentage of gains made on the third set. So, one set workouts are going to be beneficial and productive for your clients. Also, you need to understand that the order of

exercises is solely determined by the goal of the workout. You do not have to work the larger muscle groups first and work your way to the smaller muscle groups.

The last topic we wanted to focus on is metabolism. If you are trying to maximize your clients' metabolism during a workout, you will want to follow this simplified sequence for your workouts:

1. Warm-up
2. Strength training
3. Cardio training
4. Cool down

This will allow the body to completely deplete its immediate and short term energy sources before you start your cardio workout. The body will already be tapped into its aerobic metabolism once the aerobic training starts. Therefore, allowing the body to maximizing the benefits of each portion of the workout by matching the energy source to the workout activity.

## Aquatic After Care Training: By Monique Acton

Statistical data on growth of our population estimates that by the year 2030, there will be over 70 million individuals age 65 and older in the U.S. alone.

Where will you be in 2030? How well are you prepared to deal with this aging population? As Aquatic Fitness Instructors and Personal Trainers it is important to stay up with the latest fitness and medical information in order to best service this influx of people that will require fitness programming to meet their needs.

Now, take a closer look at the participants in your next aqua class. Do you notice participants with knee or hip replacements, injured athletes, rotator cuff tears, arthritis or chronic low back pain? Good!!! It is not a coincidence. These and other special populations are entering the pool to take advantage of the many benefits the aquatic environment has to offer. More and more physicians are recommending their patients participate in an exercise program once they have been released from medical care. Medical professionals are suggesting participation in aquatic exercise since the water provides a unique resistive exercise medium that is safer and has less impact on the joints. The water offers a training environment where individuals with diverse needs can improve joint stability, muscular strength and endurance, cardiorespiratory health while also combating the negative implications of injury, chronic conditions, and the natural effects of aging.

Individuals who have completed physical therapy sessions and are entering mainstream fitness programming have special needs and considerations. As group exercise instructors, personal trainers, physical therapy assistants or any other professionals involved with clients whose goal is to continue with their therapeutic goals, it is important to understand how to do so in a safe and prudent manner.

It is evident that access to that continued care is an important factor for individuals to continue with their therapeutic goals. The added likelihood of having reduced health insurance benefits or restrictions on extended treatment seems to be vital in whether individuals have the means to reach their goals. As fitness professionals, there is a huge opportunity to work with this post rehab market at local community pools, where you may in fact already be employed. And what better place to exercise than in this soothing liquid environment where clients can achieve their goals safely and effectively? To tap into this market it is important that you are prepared to work with these populations in a professional manner.

First, one must acquire the knowledge and practical skills providing the ability and competency to facilitate such programming. Knowing clearance items that are necessary from medical professionals for any given injury or condition is a must! When working with any individual with special considerations it is imperative to be able to determine whom you can and cannot work

with. Know when to send your participant back to a medical professional for treatment that is beyond your scope of practice. Become knowledgeable in anatomy, exercise physiology, and pure kinesiology. Obtain a nationally recognized certification in group exercise and / or personal training to acquire basic skills and expertise to get started.

Second, understand the needs and goals of clients with continued therapeutic goals. Some individuals may be seeking exercise to prepare their muscles for an upcoming surgery while others might be finishing up with their physical therapy.

Regardless, programs need to focus on health and wellness to improve quality of life and provide reconditioning strategies with easy access and affordability. As a therapist already working with these clients you can continue care of your client when they are ready to be discharged from physical therapy treatment. Understanding the properties of water and how to maximize the benefits of exercising in the water with the combined knowledge of how to prepare a workout program will enable you to continue care providing specialized aquatic personal training. As aquatic fitness instructors and personal trainers having a strong understanding of the principles of water it would be important to expand understanding of exercise physiology and kinesiology in regards to individuals who are looking to continue with therapeutic goals. Both therapists and fitness professionals need to expand knowledge on fitness assessments, exercise program design including frequency, intensity, length of exercise, and type of program specific to post rehab conditions in order to accomplish goals in the water.

Third, identify your role in the medical community. Understand basic medical lingo and techniques familiar to medical professionals to build rapport and establish relationships with key individuals who may refer you clients. Be proactive and talk to doctors, therapists, or other medical professionals before the client begins the exercise program. This would ensure the exercise program is appropriate for the client. It is also advised to continue communication with the doctor or therapist throughout the duration of the exercise sessions by continuing to monitor and report progress. This continued follow up shows professionalism and dedication. The medical community will respect you and refer clients once they know what you are capable of and how you follow through.

Finally, stay educated, know current trends, and care about the results that your clients achieve! Today more and more people are jumping on the bandwagon of fitness as they are becoming increasingly aware of the importance of staying healthy. The education they receive may be from articles that they read, programs viewed on TV or advice received from their doctor or medical community.

## Industry Trends: Staying Hydrated

### Staying Cool When Your Body is Hot Chantal A. Vella, M.S and Len Kravitz, Ph.D.

#### Introduction

Maintaining ample hydration can be challenging for participants in outdoor and indoor aquatic exercise classes. Sustaining hydration is essential for normal bodily functions and for peak exercise performance. Many of your students do not associate aquatic exercise with any potential risk of dehydration; however, this is a fundamental issue in aquatic exercise. This article will overview, discuss and explain some of the key physiological concepts of body temperature regulation and hydration for aquatic exercise professionals. In addition, specific recommendations for optimal hydration during exercise and aquatic exercise are provided.

#### How does the body regulate body temperature?

The human body regulates temperature by keeping a tight balance between heat gain and heat loss. Your temperature regulation system is more analogous to the operation of a home furnace, as opposed to the function of an air conditioner. Humans regulate heat generation and preservation to maintain internal body temperature or core temperature. Normal core temperature at rest varies between 36.5 and 37.5 °Celsius (°C), which is 97.7 to 99.5 °Fahrenheit (°F). Core temperature is regulated by the hypothalamus (in the brain), which is often called the body's thermostat. The hypothalamus responds to various temperature receptors located throughout the body and makes physiological adjustments to maintain a constant core temperature. For example, on a hot day, temperature receptors located in the skin send signals to the hypothalamus to cool the body by increasing the sweat rate.

During all types of exercise the body's ability to thermo regulate is challenged. Heat is produced as a bi-product of metabolism (metabolism is defined as all of the reactions that occur in the human body). However, the human body is only 25% efficient; therefore you lose approximately 75% of energy as heat. During exercise, heat is produced mainly from working muscle contractions and core temperature can go above 40 °C (104 °F).

#### How does the body lose heat?

As previously discussed, the body regulates temperature like a furnace. It is constantly producing heat and then dispersing it through various processes. Heat can be lost through the processes of conduction, convection, radiation, and evaporation. Conduction is the process of losing heat through physical contact with another object or body. For example, if you were to sit on a metal chair, the heat from your body would transfer to the cold metal chair. Convection is the process of losing heat through the movement of air or water molecules across the skin. The use of a fan to cool off the body is one example of convection. The amount of heat loss from convection is dependent upon the airflow or in aquatic exercise, the water flow over the skin. Radiation is a form of heat loss through infrared rays. This involves the transfer of heat from one object to another, with no physical contact involved. For example, the sun transfers heat to the earth through radiation. The last process of heat loss is evaporation. Evaporation is the process of losing heat through the conversion of water to gas (evaporation of sweat). The primary heat loss process for aqua enthusiasts is convection, however, in an outdoor pool on hot day evaporation will also play a primary role in heat loss.

#### How much water is in the body?

Water makes up approximately 60% of your total body composition. In addition, 73% of lean body mass or muscle is composed of water. It is the essential nutrient for survival and is required for all cell functions. Water is also an important constituent in thermoregulation, because it is a major component of blood volume. It is mainly lost through sweat, respiration, and waste. However, when the body is dehydrated, most of the water lost is from the blood.

#### Sweat Basics

The average person has 2.6 million sweat glands. Sweat is made up of water and electrolytes such as sodium, chloride, and potassium. When the

Hypothalamus senses an increase in core temperature it will act by increasing blood flow to the skin, stimulating the sweat glands. The result is an increase in the rate of water lost through sweating.

During low- to moderate-intensity exercise of less than one hour, there are minimal electrolyte losses because the body reabsorbs most of the electrolytes from the sweat. However, during moderate- to high-intensity exercise of greater than one hour, the electrolyte loss in sweat becomes significant and the sweat rate is too fast for re-absorption of electrolytes.

#### How much water is lost during exercise?

During high-intensity exercise, a person can lose up to 2.0 liters of water per hour! However, 1.0 liter of water per hour is more common. Sweat rate can vary depending on the environmental temperature, humidity, type of clothing worn during exercise, intensity of exercise, fitness level of the individual and acclimation of the individual to the environment. Replacing fluids during and after exercise is very important for staying hydrated and preventing dehydration. Signs of dehydration include dark colored urine (urine should be the color of water with a splash of lemon), muscle cramps, decreased sweat rate, and increased fatigue.

#### What is the best way to stay hydrated?

According the American College of Sports Medicine (ACSM), before, during and following exercise, water or a carbohydrate/electrolyte drink is recommended to stay hydrated. The drink of choice should be cold in temperature and taste good to the individual. If it's more palatable to the person, more will be ingested!

ACSM makes the following general recommendations for the amount and type of fluid that should be ingested before, during and after exercise:

- \*approximately 24 hours before exercise, an individual is recommended to consume fluids and foods to promote hydration. Fruits, vegetables, and carbohydrates are examples of foods that promote hydration. In addition, avoid too much alcohol and caffeine, as these fluids can cause water loss and promote dehydration.

- \*Two hours before exercise, 16 ounces (2 cups) of fluid should be ingested to promote hydration and allow time for excretion of excess water.

- \*During exercise of less than an hour, it is recommended to ingest water every 15 minutes to prevent dehydration. Electrolyte loss is negligible; therefore a carbohydrate drink is not necessary.

- \*During exercise of greater than an hour, it is recommended to ingest a carbohydrate and electrolyte drink every 15 minutes.

- \*Never restrict fluids during exercise! Quite the contrary. Encourage your students to take water breaks during the class. Many aquatic exercise professionals actually plan the hydration breaks into the structure of the class.

- \*After exercise ingest a carbohydrate and electrolyte solution. The carbohydrate will replenish glycogen stores (muscle carbohydrate stores) and the electrolytes will replenish sodium, chloride, and potassium lost in sweat. In addition, avoid carbonated drinks, as they make you feel full and decrease fluid intake.

#### Specific Suggestions for the Aqua Instructor

As aqua instructors it is essential to promote fluid intake before, during and after exercise. Many individuals do not associate dehydration with exercise in the pool. However, in a hot humid environment, dehydration is a potential risk to your aqua exercise students. During a 60 to 90 minute class, encourage participants to take a water break every 15 minutes. In hot, humid weather a carbohydrate and electrolyte drink is preferable to water. However, in cool to moderate weather, water is sufficient to maintain hydration during exercise. Following each class, remind students to continue to re-hydrate throughout the day. Advise your students to drink 1-2 glasses of water at least one hour before each exercise class begins. For the health, safety and enjoyment of your students, aquatic exercise professionals are encouraged to develop teaching strategies that educate students about correct and appropriate hydration before, during and after exercise. In the long run, this will help your students realize their fitness goals.

## Marketing Ideas: The Internet

This month, we wanted talk to you about the power of the internet. The internet can be one of the most powerful marketing tools that we have available today. The internet gives us the opportunity to reach millions of people around the world.

Just as important is the fact that more and more people are turning to the internet to find trainers. This is a trend that is just going to grow in the coming years. Just think how easy it would be to give someone your web page address for them to be able to get more information about you. Also, it is much cheaper than paying for brochures and constantly printing flyers. Those are great ways to disseminate information, but are better left out for people to see and/or take from somewhere. Also, it is very convenient to e-mail someone your web address if they are looking for more information. It allows you to have a much quicker response time. A fast response time could be the difference in getting or losing a client.

Many people have not taken advantage of the marketing avenue that the internet

may offer the personal trainer. That is why we would strongly encourage everyone to get a web page as soon as possible. This is why we have created a system to allow trainers to have their own web page for free. All of the web pages will be in a data base for people to search through to locate a trainer in a particular region of the world. All certified personal trainers now have the ability to set up their own web page for free. As the trainer, you just have to decide if you want to take advantage of this free service. All you need to do is go to [www.hydropowerwaterworkouts.com](http://www.hydropowerwaterworkouts.com) and click on the picture at the bottom left. This will take you straight to the registration page.

The doors that the internet can open for your business are endless. Do not be left behind, take advantage of this opportunity while you have the chance. Remember, you can not get new clients if the clients can not find you. The majority of the people that will take advantage of personal training are on the internet on a regular basis. Why not have yourself right in front of them as they are surfing the web.

*We look forward to seeing you on the net soon!*

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***“All certified personal trainers now have the ability to set up their own web page for free.”***

## Certification and Workshop Calendar of Events

For a list and up to date information on events, please visit our web site at [www.hydropowerwaterworkouts.com](http://www.hydropowerwaterworkouts.com)

### Upcoming Events

**June 6, 2004  
Scottsdale, AZ**

**June 11-13, 2004  
Aspen, CO**

**June 26-27, 2004  
Rapid City, SD**

**September 10-11, 2004  
Gilbert, AZ**

### Upcoming Events

**September 18-19, 2004  
Gillette, WY**

**October 2-3, 2004  
Claremont, CA**

**October 8-10, 2004  
Bellevue, Washington  
AEA Regional Conference**

We are still looking to add dates for the fall. Please contact us to get your facility added.



## Hydropower Water Workouts

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### We're on the Web!

See us at:

[www.hydropowerwaterworkouts.com](http://www.hydropowerwaterworkouts.com)

## Sponsors



All of our sponsors provide us with pricing below their normal retail prices.

Hydropower Water Workouts also uses the equipment from each company for various programs.

### About Hydropower Water Workouts...

Hydropower Water Workouts was founded in 1994. When Hydropower first began, the sole purpose was to give everyone the opportunity to enjoy the benefits of a healthier, more active, more enjoyable lifestyle through the comfort and safety of aquatic fitness.

Since that time, Hydropower has expanded to include facility management and programming. Hydropower is also involved in consulting with facilities, fitness professionals and fitness enthusiasts. In 1996, Hydropower relocated from College Station, TX to Phoenix, Arizona. After relocating to The Valley of the Sun, Hydropower expanded once again. Hydropower now dedicates a large portion of its resources to continuing education classes for fitness professionals and the development of a stronger, more credible aquatic fitness industry through education and networking.

Greg Peterson is the founder and owner of Hydropower Water Workouts. He has a B.S. in Kinesiology from Texas A&M University. Greg is a certified personal trainer through AEA, ACE and NASM. He is a certified Fitness Instructor through AEA. Greg has been leading aquatic fitness classes for over 13 years. Over the last 13 years, he has gained considerable experience while teaching to every imaginable population and class format. He has accumulated over 7500 hours of teaching experience. Greg has also been personal training individuals in the pool and on land for over 13 years. His clientele has included everyone from the physically and/or mentally challenged to the elite athlete.

Greg is an Aquatic Training Specialist with the Aquatic Exercise Association, Inc. He has been a Provider for AEA since 1997 and a presenter at the International Aquatic Fitness Conference. Greg is a CEC provider for AEA, ACE and AFAA. His unique

approach to class formatting and choreography has been shared with 1000's of individuals across the country and around the world. He also has a no nonsense approach to personal training that helps trainers of all levels expand their knowledge and programming capabilities.

Greg also won the US Water Fitness Association National Water Aerobic Championship in 1994 and placed 2nd in the International competition in 1995. Greg has been published in an international fitness magazine numerous times and co-authored the AEA Aquatic Personal Training Certification Manual. He was a regular guest on the morning news show talking about aquatic fitness in the mid 90's in central Texas and featured on the morning show in Phoenix in '97. Greg has been in newspapers ranging from the *Bryan/College Station Eagle* to the *New York Times* in regards to aquatic training/programming and land-based personal training.