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The Fitness Journal

Hydropower Water Workouts

What's New at Hydropower

We have finally wrapped up a very busy fall schedule and are looking forward to getting events and new programs ready for 2005.

I would like to take the opportunity to thank everyone that participated in the events this past year. All of you have helped make 2004 our most successful and enjoyable year in our 10-year history.

We are still working on adding enhancing our website. We have added some new reference links based on your feedback. Please keep those suggestions coming. We are also continually adding new products to the store. We now have Dynamix music.

We are also looking to add some new workshops for 2005.

Do not forget to visit our forum and join in our discussions. Also, do not forget about our trainer referral program. The list is growing.

Please let us know if there is anything else you would like to see.

Article Highlights:

- **2004 Wrap-Up**
- **Resource links**
- **Fitness Forum**
- **New Products in Store**

Newsletter Highlights:

Nutritional Tips for Persons with Cancer

In general, persons with cancer should consume a variety of foods daily for a nutritionally adequate diet balanced in protein, carbohydrates, fat, vitamins, and minerals. Because of the stress of illness on the body, there is an increased need for protein to help repair and rebuild tissues, and to maintain a healthy immune system. Individualized nutrition intervention is recommended to ensure adequate nutrition intake and weight maintenance.

Nutritional needs will vary, depending on the type of treatment chosen. For example, if receiving chemotherapy, it is common to experience taste abnormalities. Protein, energy, and vitamin metabolism may be impaired during treatment. If corticosteroids are prescribed as part of the treatment process, they can cause tissue breakdown and promote excessive urinary loss of protein, potassium, and calcium. It is also common to experience some problems with digestion and nutritional absorption during the treatment. Be aware of significant nutritional consequences associated with surgical resection as treatment for pancreatic cancer. During radiation, multivitamins and supplements that include vitamins B12, folic acid, and A, E, and K are essential.

For cancer prevention, eat a variety of healthful foods, with an emphasis on plant sources (five or more servings of a variety of fruits and vegetables every day, whole grains, and limited consumption of red meats, especially those processed and high in fat). Choose foods that help maintain a healthful weight. Adopt a physically active lifestyle (moderate activity for 30 minutes or more 5 days or more a week), and maintain a healthful weight throughout life, where caloric intake is balanced with physical activity. Finally, limit consumption of alcoholic beverages.

View other resources at NCPAD's Illinois Center on Health Promotion, Nutrition, Physical Activity and Disability Web site at www.ncpad.org/nutrition/.

Certification and Workshop Calendar of Events

We are excited to let everyone know that we are now starting to schedule events for 2005.

If you are interested in hosting an event at your facility, please contact us as soon as possible with the dates and certification/workshops. All dates are scheduled on a first come bases, so please do not hesitate if you are interested.

A typical weekend will consist of a certification and 3 workshops. We will customize a weekend to fit your individual needs as the host facility.

We can conduct these events for you anywhere in the United States as well as many international locations.

We have about 25 dates open for events to be scheduled. Please continue to check the schedule as the calendar starts to fill up.

Seniors – Head-to-Toe Mobility

by Carol Argo

Mobility is the ability to move at a joint. With aging, mobility along with strength and flexibility decline. Mobility is developed by constant motion. Strength is developed by an isotonic contraction of the muscle (shortening & lengthening) or an isometric contraction (tension with no change in muscle length). Flexibility is developed through both static and dynamic lengthening of the muscle fibers.

Here are some aquatic movement ideas to enhance mobility in those frequently overlooked areas of the body.

Neck

- Wherever the eyes go, the head follows. Always keep neck lengthened to prevent compression. Perform slow, controlled movement. Repeat each 8x.
- Rotation: Rotate neck while doing jumping jacks. Look to left as legs open apart. Look center as legs come together. Look to right as legs open apart.
- Flexion/Extension: Stand in wide stance. Figure 8 arms across chest & drop chin to chest while lengthening back of neck. Figure 8 arms open & gaze up while opening chest. Avoid over hyperextension of neck.
- Lateral Flexion: Drop left ear to shoulder while stepping down with left foot. Lengthen upwards and repeat on right. Transfer weight from side to side. Keep shoulders down & neck long.

Shoulders

- Circle both shoulders backwards & then alternate left and right.
- Move the entire body thorough the water while “dragging” the arms behind and across the body.
- Continually change directions. Keep the arms relaxed. This feels like “Do it yourself Watsu!”

Hands

- Integrate these movements with or without lower body movement.
- Move the wrists in circles. Open and close the hands. Flick the fingers. Shake the hands & keep wrist loose. Play the piano. Play the drums. Pull imaginary taffy. Imagine the hands are blades slicing multi-dimensionally.

Spine

- Ground the feet.
- Undulate. Rotate. Open and close the ribcage. Move like a sensual mermaid. Make ‘S’ curves from head to sacrum.

Pelvis

- Stand in wide stance.
- Do Kegels (pull pelvic floor upward) while doing the following movements. Circle hips. Figure 8 the hips. Laterally sway while lengthening sides of waist (wag tail).

Ankles

- Stand on one leg. Bend knee of lifted leg and circle ankle. Straighten leg and point and flex. Move slowly with full range.

Print off these stretches and take to the pool for a refreshing new stretch routine that will move you ... from head to toe!

Now That I Am Retired, Why Strength Train?

by Karen Kessler

Muscular strength and endurance are important components of physical fitness for all individuals, but these elements become even more important as individual's age. Moderate levels of strength are necessary for a surprising number of activities of daily living, activities such as climbing stairs or carrying groceries and packages to cars which are often parked far away in mall parking lots. Strength and aerobic training, done in the water, can prevent age-related decline seen in the body systems. Let's explore some of the research findings which support these claims.

Physiological changes accompany aging and these changes eventually constrain motor performance. However, it is difficult to distinguish physiological changes due to aging per se from those due to declining physical activity, decreases in motivation, lower societal expectations, and the occurrence of disease. Exercise physiologists suggest that most symptoms that people, especially those 50 - 77 years of age, attributed to aging are really the result of inactivity.

Many studies have shown that resistive exercise can increase strength substantially in adults at any age (Frontera et al., 1988; Moritani& de Vries, 1980; Tomanek & Wood, 1970). The effects of regular, systematic physical activity on the muscular system of the aging adult are impressive. Of all the bodily systems, the neuromuscular system can demonstrate the most visibly dramatic difference between a completely sedentary, inactive person and a person who conscientiously trains. Differences in neuromuscular function can range from the 80-year-old who cannot lift a 10 pound weight to a person of the same age who can lift 200-pounds, from an octogenarian who cannot get up out of a chair to one who can run a 26.2 mile marathon in a masters track meet. The muscular system is maintained to a great extent by the amount of daily physical activity an individual experiences, either in work or in leisure pursuits such as sports. Older adults who stay physically active have greater strength levels than do sedentary persons (Viljanen, Viitasalo, & Kujala, 1991).

Some of the oldest adults to be resistance trained were studied by Fiatarone et al. (1990), who found large gains in the muscular strength, endurance and mobility of 86-to-96-year-old subjects. In this study, 10 very frail individuals who lived in a long-term care facility and who also had one or more combinations of osteoarthritis, coronary artery disease, osteoporotic fractures, and hypertension, participated in an 8-week progressive resistance strength training program under careful medical supervision. The subjects exercised only one muscle group, the knee extensors, by executing three sets of eight knee extensions at 80% of their maximum strength. The average increase in strength was 174% on the right leg and 180% on the left leg. These results were remarkable. More important, however, were the changes in mobility that occurred following the strength training program. After participating in the Fiatarone group's training program, two subjects were able to eliminate the use of their canes to walk, and one of the three subjects who, prior to training, were unable to rise from a chair without using their arms was able to do so.

For those very old persons who cannot participate in a progressive high-resistance strength program like that described previously, substantial gains in strength, flexibility, and mobility can still be made even with very low impact and light exercise programs (Brown & Holloszy, 1991; Gillette, 1989; Sager, 1984). A relatively low intensity exercise program 5 days a week for 3 months resulted in significantly better standing balance for women ages 60-to-71 (Brown & Holloszy, 1991).

Chronic resistance strength training enables individuals to maintain high levels of strength for many years and also provides individuals who have not been involved in strength training an opportunity to reverse many of the age-related deterioration processes that are observed in the muscles of sedentary people.

Adults who participate regularly in aerobic (water) exercise can maintain superior muscular endurance for many years, well beyond what was previously thought. Strength and endurance training can prevent the age-related decline of both the slow and fast twitch muscle fibers. The number of muscle fibers does not increase with normal strength training programs, however the size of the active muscle fibers does increase, as well as the number of fibers activated. Other effects of strength training on muscle fiber are increases in the half-relaxation time of the muscle (which means that the muscle can maintain tension longer at the same motor unit-firing frequency), the number of capillaries per muscle fiber area (for both young and older adults), and efficiency and energy production of mitochondria in both young and old. Frequent muscular training may also have beneficial effects on the neurons that enervate the active muscles.

Bottom line, all adults need strength and endurance training as a regular part of their fitness routine. One of the clearest findings in the literature on strength and aging is that disuse accelerates aging. In fact, most of the decline seen in strength and muscular endurance, at least until age 70, is due more to disuse of the neuromuscular system than to aging.

Follow this link for a complete bibliography for this article. http://www.aeawave.com/tc-01-00.htm

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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 enthusiast. 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 14 years. Over the last 14 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 14 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.