AQUAJOGGING: HIGH VALUE FITNESS PART II

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The Toronto Star News, "In Focus: Water Fitness," Rehema Willis, 9/20/98

"Canadian sprinter Donovan Bailey, Olympic double gold medalist, is back running again..." Mind you, his feet aren't touching the ground...He's wearing an Aquajogger, a device that goes around his chest, keeping him buoyant and vertical while he's still in the water. It allows him to simulate sprinting, the water creating resistance yet allowing him to put no direct weight pressure on his foot. It provides a great environment to do his mechanics, said Dr.. Antony Galea, a sports medicine specialist who is part of the team working with Bailey".

It is a fact that 66% of all runners will experience a running related injury over any given 12 month period.

Research has shown that running 30 miles per week increases the chance of injury by more than 55%.

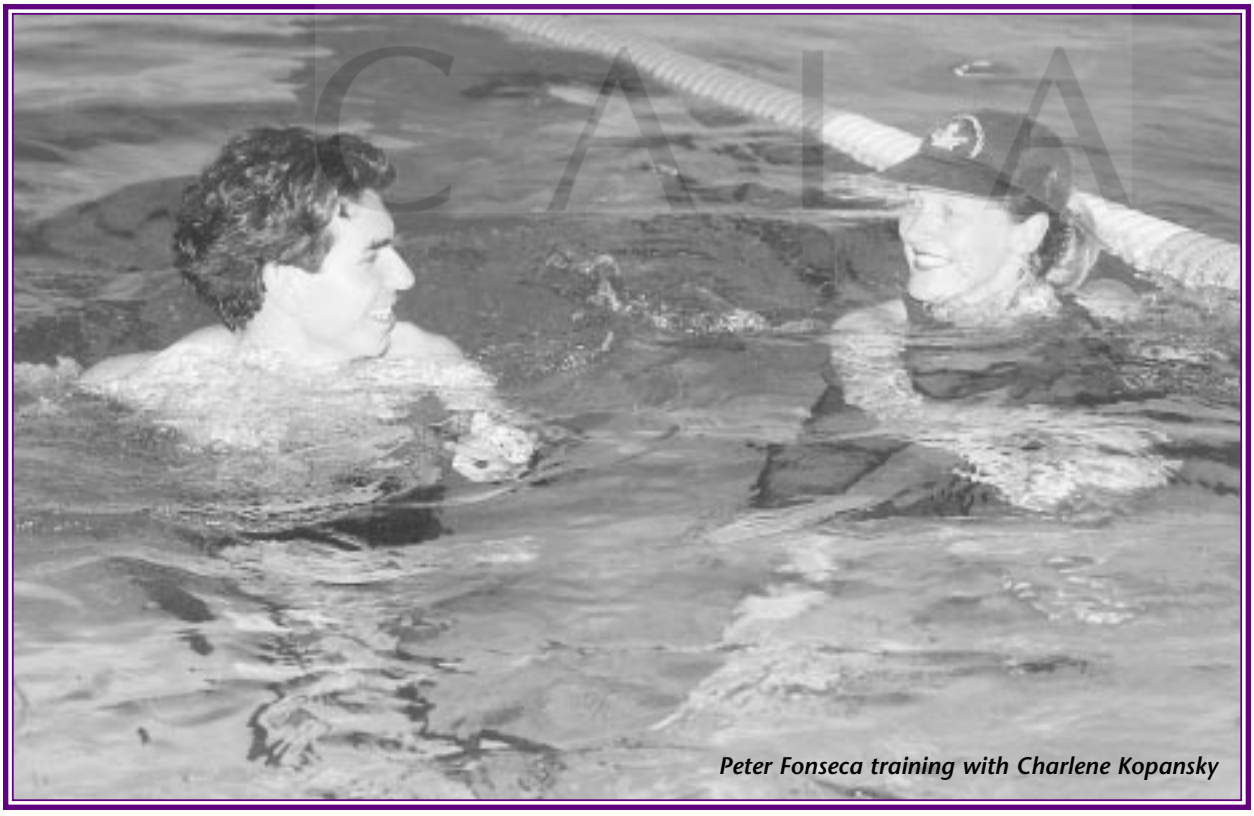
Aquajogging permits the runner to increase weekly "mileage" yet eliminate the increased risk associated with repetitive impact during land based running.

Runners restricted to a deep water running regime for up to 8 weeks can maintain or even improve aerobic fitness.

Part One of this ongoing series of articles on Aquajogging described the differences between land and water running. When introducing runners to Aquajogging, it is vitally important to conduct small group or 'one to one' familiarization and orientation sessions. This will ensure that the Aquajogging experience will yield good results from a training perspective. Familiarization sessions ensure that correct form is learned by the participant. Correct form will improve the cross training effectiveness of aquajogging. An orientation session ensures the equipment is appropriate for the individual.

Familiarization is the key to starting an Aquajogging program safely and effectively.

Human performance is highly task specific. When designing programs consider both the metabolic and biomechanical requirements for any particular sport. Deep water running provides a highly specific training alternative to land based running. Additional exercises in



Peter Fonseca training with Charlene Kopansky

the water can also be designed to target specific anatomical sites for rehabilitation and injury prevention for all athletes.

Aquajogging enables clients to improve running form, lactate threshold and V02max. Training at various intensities will achieve these goals. To get started the participant must determine their maximum heart rate and heart rate responses to Aquajogging at various intensities. A "Graded Wilder Exercise Test" designed by Wilder and Brennan, tracks heart rate response and perceived exertion at various cadences sustained for three minute intervals.

The results of the "Graded Wilder Exercise Test" are most effective when the client/participant has completed an orientation session and several familiarization sessions. This will ensure the equipment is comfortable and the running form is correct.

Deep water running provides a highly specific training alternative to land based running.

Monitoring training intensity during the "Graded Wilder Exercise Test" involves three variables: heart rate, perceived exertion and cadence. Results gathered from this test enable participants and fitness professionals to know how quickly to run in water (cadence), what heart rate to train at (heart rate) and how hard to be working (perceived exertion) in order to improve running form, lactate threshold and/or V02max.

Heart Rate (HR): There are two methods to monitor heart rate while Aquajogging. Use of a heart rate monitor is highly recommended. The device allows the participant to continue moving, while gathering accurate heart rate readings. Palpation is the second option. This method requires the individual to stop moving vigorously, which negatively affects the heart rate reading and disrupts an important aspect of Aquajogging called "rhythm". In water, the training heart rate is lower by approximately 10% of land values. Heart rate is recorded at the termination of each interval.

Perceived Exertion (RPE): This is a subjective scale to measure effort. Brennan simplified Borg's 15 point RPE scale to a 5 point scale. The Brennan scale has five verbal descriptors. Exertion can be reported or prescribed in increments of 0.5 or 0.25. While Aquajogging, the participant assesses how hard they feel they are working during the last 10 seconds of the interval. (see fig 1 and fig 2)

Cadence (CPM): Stride frequency is generally expressed as the number of times the right leg cycles through a complete gait cycle per minute (CPM). CPM's are recorded during the last 30 seconds of each interval and then doubled, (intrinsic rhythm) or controlled by a metronome (extrinsic rhythm). Peak and sub maximal cadences appear to vary significant between sprinters and distance running during Aqua running. (see fig. 1 and fig. 2). Participants must maintain correct running from at each prescribed cadence in order to get accurate readings for exercise intensity. The accurate readings enable the client or fitness professional to prescribe certain cadences at specific RPE and HR, to achieve specific training goals.

RPE & CADENCE VALUES (CPM) FOR DISTANCE RUNNERS (fig. 1.)

RPE		CADENCE	LAND EQUIVALENT
Very Light	1.0 1.5	< 50 50-59	Brisk walk
Light	2.0 2.5	60-64 65-69	Easy jog
Somewhat Hard	3.0 3.5	70-74 75-80	Brisk run
Hard	4.0 4.5	80-84 85-90	5k/10 pace
Very Hard	5.0	>90	Short track intervals

RPE AND CADENCE VALUES FOR SPRINTERS (fig 2.)

RPE		CPM	LAND EQUIVALENT
Very Light	1.0 1.5	< 74 75-79	> 800 meters
Light	2.0 2.5	80-84 85-90	600-800 meters
Somewhat Hard	3.0 3.5	90-94 95-99	400-600 meters
Hard	4.0 4.5	100-104 105-109	200-400 meters
Very Hard	5.0	>110	50m-200 meters

** Brennan DK, Wilder RP, (1990) Aqua running: An Instructors Manual. Houston International Running Center, Houston Texas.*

Upon analysis of the "Graded Wilder Exercise Test", highly specific training sessions can be designed to help maximize the benefits of water training.

Part Three of this series will include low, medium and high intensity training formats as related to training to improve running form, lactate threshold and V02max.

References:

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BIO - David K. Brennan M.Ed.

David Brennan M.Ed. is President of the Houston International Running Center. David competed for the University of Houston in track and cross-country accomplishing All-American Status for the 1500m run in 1976. He is an assistant professor at Baylor College of Medicine, Department of Physical Medicine and Rehabilitation and founder of the Aqua running deep water exercise program. Brennan has a private practice in Aquatic Rehabilitation at The Houstonian in Houston, Texas and is a certified American College of Sports Medicine Health and Fitness Instructor. David trainers Olympic runners and professional sports teams in the water.

UPCOMING AQUAJOGGER TRAINING PROGRAM - SPECIALTY COURSE

CALA is offering the one day AJTP specialty course in Calgary on September 9 and in Ottawa on October 29, 2000. Contact CALA headquarters at 1-888-751-9823 or cala@interlog.com for details or to book a course at your facility.

RUNNERS, COACHES, PERSONAL TRAINERS AND OTHER FITNESS PROFESSIONALS ARE MOST WELCOME TO ATTEND THIS COURSE. CERTIFICATION IS OPTIONAL, LEARNING IN GUARANTEED.

The current and leading edge scientific information in this course is effectively applied in a hands on way to ensure training techniques for Aquajogging can be integrated into any cross training program. The course is geared to coaches, runners including all fitness levels and types of running (sprinting, middle distance, long distance-marathons), personal trainers, athletes looking for an effective means to cross train without incurring injury, and to instructors and participants.