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SUMMER 2002

Wave

L I N K

CALA Conference
2002



CALA

The Canadian Aquafitness Leaders Alliance Inc.

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LETTER FROM THE EDITOR

Having a Blast!

Fresh from the performance, "Blast" at the Hummingbird Centre, I marvel at the creative talents that abound in this world. With an overwhelmingly pleasing combination of music and movement, the experience left me pumped and wanting more. It is amazing how my life experiences affect my leadership in aquafitness.

While walking through the forest and along the garden pathways in a Toronto Park, fascinating movement combinations popped into my head and promptly took over my body. I am certain the creative juices were flowing as a result of a combination of factors. Put together warmth, brilliant sunshine, azaleas and rhododendrons in full bloom, and memories of a spectacular performance only 24 hours before and, voila! the ingredients for a creative power surge.

Now conference and workshop sessions are filling my mind, body and spirit and are begging to be offered! My participants will fill with delight as I share the power surge with them.



Enjoying the sunset, Waiiau, New Zealand.

CONFERENCE 2003 UPDATE:

Conference dates were applied for in May 2002 and we are awaiting confirmation. If appropriate dates are available, we will return to the ETOBI-COKE OLYMPIUM for 2003. The 2002 conference numbers were up by 25% over 2001. The conference surveys indicated the following: The Toronto location is central and accessible. The cost was affordable. The sessions were appealing and

diverse. The constant supply of energy food was tops. The Trade Show complete with non-stop sponsorship draw prizes was a big bonus.

Stay tuned for conference details for 2003.

REGIONAL CONFERENCES:

There has been considerable interest expressed by members in Calgary-Lethbridge, Vancouver and Ottawa for a regional CALA Conference. I would love to oblige these requests and envision a 1 to 1.5 day event. This is what I need from the membership in order for it to happen:

- (1) one individual, in each region, who has access to an appropriate facility and wants to take charge, get a team of volunteers together and facilitate a regional convention. If you are that individual, email or call me at CALA headquarters. We will get the ball rolling!
- (2) support from the membership... if we offer a convention in your region... make a commitment to attend the event, to ensure it's success.

* See p. 16, two regional conferences are already booked.

TRAINING FOR TRAINERS:

I know, I know... eager new trainers and motivated experienced trainers are awaiting a date for the 2002 "T for T". All those who have expressed interest in attending this retreat will receive notification as soon as the date and location are confirmed. Thank you for your patience.

Take a look at the upcoming events listed on page 16 - Summer and Fall 2003 is busy. There are some events in process, awaiting confirmation. If you want to host a workshop, conference, specialty course or Basic Aquafitness course, please contact CALA.

Don't forget to renew your membership, complete your certification or do your recertification. If you contact us, it lightens the load at headquarters.

Have a great summer!

Charlene Kopansky, B. Sc., Human Kinetics, B. Ed. Sc. P.H.Ed., CALA President and Founder, 1993

MEMBERS AQUABELT PRICES:

- Medium \$30.00 + S&H + Tx
- Large \$32.00 + S&H + Tx
- X-Large \$34.00 + S&H + Tx

NON-MEMBERS AQUABELT PRICES:

- All Sizes \$38.00 + S&H + Tx
- Shipping and Handling \$15.00 + \$2.00 per belt.
- We only take orders for 12 or more belts

AQUABELT SIZES:

Size	Width	Lgth	Waist
• Medium	4 5/8"	32"	26"-35"
• Large	4 5/8"	33"	36"-42"
• X-Large	4 1/4"	35"	38"-45"

REPLACEMENT STRAPS:

- All Sizes \$5.00 + \$1.50 per strap (S&H) + Tx.

*** All belts come with straps included.

*** Belts are not approved for use as lifesaving personal flotation devices.

For more information about our Aquabelts and to place an order please contact the CALA office at 1-888-751-9823.

THE CALGARY WINTER CLUB 'ART' - AQUA RUN TRAINING

Carmelita, a CALA trained water running instructor at the Calgary Winter Club has dubbed her class the 'ART' - 'Aqua Run Training'. Currently there are five 'ART' classes on offer. The classes attract regular aquafitness participants as well as other fitness enthusiasts who are totally new to water exercise.

The photos, courtesy of Marilyn Sawford (Aquafitness Coordinator at the Winter Club) tell a story about who the non-aquafit participants are in a very successful noon hour 'ART' class. Ken, a marathon runner looking for an anaerobic workout without injuring himself. Nigel, a marathon runner and competitive squash player looking for a way to continue to train while injured. Ted, an ironman triathlete who added vertical water workouts to his training mix.



Marilyn, an ex-runner and ex-triathlete looking for an alternative to running on land.

All of these individuals have discovered the benefits of running in water. They enjoy the tethered or hitched stationary work where they can focus on technique and intensity rather than horizontal speed.

Why not add water running to your aquafitness schedule? While deep water is the preferred medium, this workout is also suitable in chest to shoulder depth water.

Call CALA to organize a one day Water Running and Aqua Jogging Specialty Course at your facility. Take a look at page 16... there is a Water Running course offered in early July in Dartmouth, Nova Scotia.



CALA GETS THE THUMBS UP FROM THE TORONTO REHAB CENTRE

Dear Charlene

I want to thank you. When I told my program supervisor at the Toronto Rehab Centre that I wanted to take Aquafitness, as a part of my rehabilitation from my heart attack and triple by-pass surgery, she told me that there is a great difference in the programs that are offered and that we would have to discuss the conditions that would have to be controlled.

As soon as I told her that you had trained the instructors of the aquafitness program that I would be attending, at the Willowdale Club - Fitness Institute, she immediately started to tell me about CALA and what an excellent program it is and how people trained through CALA present a well balanced program with a well modulated heart training session. She immediately

gave me permission to start taking aquafitness twice a week in addition to my walking program.

Since I must wear a heart rate monitor while I exercise, I was surprised to discover that while I don't feel that I am working as hard in the pool, as I feel that I am working in the gym, my heart rate is actually higher in the water. I think the motivation provided by the instructors gets me working.

Thank you. The excellent aquafitness program taught by CALA instructors at the club allows me to exercise all parts of my body with less strain on my painful back and hips and also improves the strength of my heart.

Sincerely,

Jacqueline Bennett

STABILIZATION SENSIBILITY

Bettina Bokori-Mayman

Graduate Diploma in Exercise and Rehabilitation (Grad Dip Ex Rehab) & ATRI Certified

E-mail: h2oz@bigpond.com

Bettina is an aquatic exercise specialist who has over 10 years experience as a national and international presenter. Bettina lectures at Victoria University of Technology on Aquatic Exercise and has a specific interest in "special populations". Bettina is also the Director of H2Oz, which is a national organization that specializes in aquatic exercise.

Introduction

We all appreciate the crucial role the abdominals, back and stabilizers play. Let's review the anatomy, and look at additional effective ways to target this important area in an aquatic exercise class.

Abdominal Muscles

When referring to the abdominal muscles, the rectus abdominis, the transversus abdominis, the external obliques, and the internal obliques are the focus muscles.

The **rectus abdominis** is the most superficial of the four muscles. It forward and laterally flexes the spine. Examples of some exercises that activate this muscle to varying degrees during an aquatic exercise session are: abdominal curls, pelvic curls, double knee tuck crunches, rock n' rolls, and curl downs.

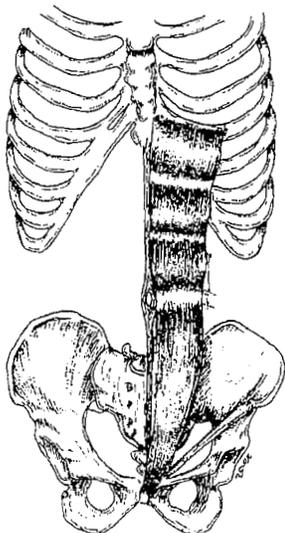
The **transverse abdominis** is the deepest of the four muscles. Forced expiration pulls the abdominal wall inward, and activates this muscle. Examples of some exercises that activate this muscle during an aquatic exercise session are: standing, water walking, drawing contents of the torso to the spine, and most abdominal exercises that focus on breathing.

Strengthening the obliques is important because they create a supportive 'corset' or 'girdle of strength'

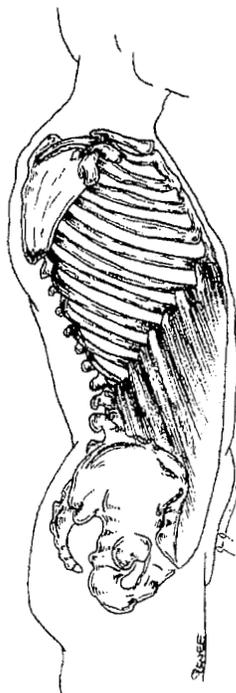
The **external obliques** are located on the left and right sides of the abdomen. The external obliques flex the trunk, right side to left side, and left side to right side. Examples of some exercises that activate the external obliques during an aquatic exercise session are: anything that involves twisting, lunges, cross water pulls, cross kicks, ski bounces, pendulums and lateral rock n' rolls.

The **internal obliques** are located on the lateral side of the abdomen, underneath the external obliques. The action of this muscle is to flex the trunk, right side to right side and left side to left side. Examples of some exercises that activate this muscle during an aquatic exercise session are: lateral reaches, lateral push downs, karate kicks and lateral scoops.

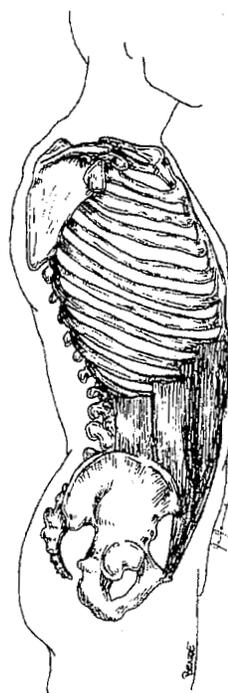
Rectus
Abdominis



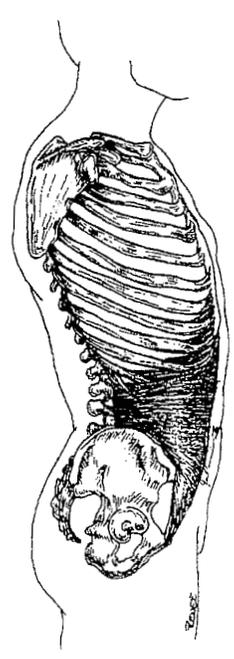
External
Obliques



Internal
Obliques



Transversus
Abdominis



Abdominal Strengthening - Key Points

1. Include more abdominal compression exercises. These exercises are important because compression is used in standing, sitting, and while lifting to help stabilize the lower back.
2. Emphasize oblique work in aquatic exercise sessions, this includes lateral bending and twisting. Too much emphasis is placed on working the rectus abdominis in classes in general. It is important to remember that the rectus abdominis tends to be a very overworked muscle, as it already gets a lot of work during daily activities.
3. Remind participants to maintain good posture throughout all exercise sessions.
4. Engage the pelvic tilt position and when finished an abdominal exercise, return to a natural lower back curve to be used with other activities. This isometric contraction aids trunk stability greatly as buoyancy is always trying to offset this position. The pelvic tilt also aids the correct concentric contraction, and will make it more difficult for clients to perform hip flexion.
5. Focus on 'breath', exhale on the effort or curling action.

Pelvic Floor Muscles

Even though the pelvic floor is not part of the abdominal muscle region, it is a very important area, which recently has received a lot of research focus. Researchers estimate that 8% of adults, including between 10% and 30% of women, aged 15 to 64 years of age, suffer from incontinence. Women are mainly affected by incontinence, but incontinence can affect older men.

The pelvic floor is a thin band of muscle that runs in a horizontal plane from the edge of the spine, underneath the bladder, womb and bowel. It is a like a trampoline, 'bounced upon' by everything above it. The pelvic floor can lose its elasticity and is prone to collapse.

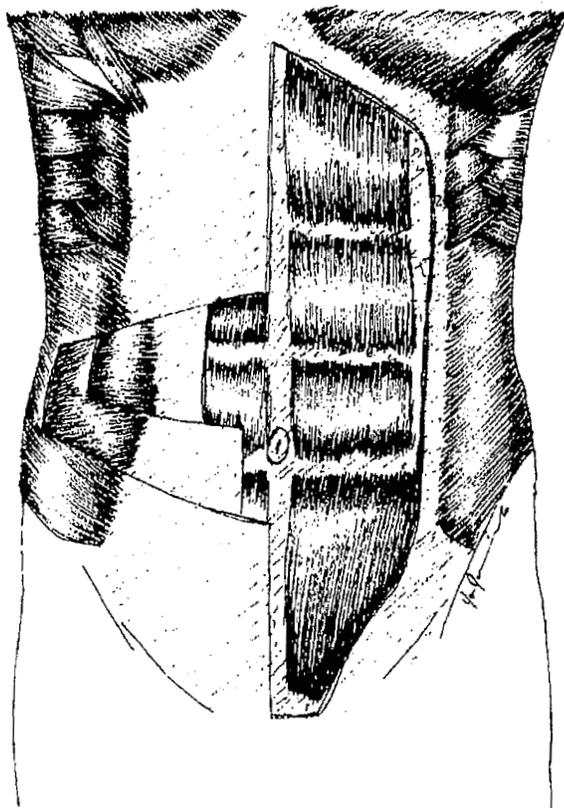
Pelvic floor muscles can be damaged by heavy lifting, high impact activities, being overweight, pregnancy, "holding on" (not going to the toilet often enough), chronic coughing and strenuous abdominal exercises.

A recent study, by Norwegian researchers, concluded that pelvic floor exercises are the best treatment for incontinence. Specialists acknowledge that any muscle you exercise regularly is going to be stronger than one you do not exercise. When performing a pelvic floor contraction in class, cue participants to contract the gluteal muscles at the same time. This seems to help some participants

perform the muscle action more effectively. Remember the *internal elevator*. Visualize the pelvic floor area as the entrance to an elevator, then visualize the elevator car going up inside the body, as the muscles are activated. This also helps clients get in touch with the muscles in this area, and increases the strength of the contraction.

A useful tip for any client that suffers from incontinence is to remind them to tighten their pelvic floor muscles before lifting anything, and if possible before coughing, sneezing or laughing.

Abdominal Muscles



Spinal Column Muscles

There is a significant difference between the thoracic and the lumbar spine. The thoracic spine is primarily involved with the scapular area. The lumbar region relates to everything from L1 (the first lumbar vertebrae) and down the spine. A well-balanced exercise program can help clients build strength and stability in this area. When discussing the back and torso in this article, the area of focus is primarily the lumbar spine/lower back region.

A few large muscles and numerous smaller muscles are found in the lower back area. The largest muscle is the *erector spinae* (sacrospinalis), which extends on each side of the spinal column from the pelvic region to the cranium (skull).

continued on page 6

- The erector spinae is divided into three muscles: spinalis, longissimus and iliocostalis.
- From the medial to the lateral side it has attachments in the lumbar, thoracic and cervical regions. Therefore, it is said that the erector spinae is made up of nine major muscles.
- The action of the erector spinae is to extend the spine and incline the head backward. It also laterally flexes the spine, assisting the abdominals.
- Back extension and pelvic tilts also activate the erector spinae muscle.

The *quadratus lumborum* is another important muscle.

- It extends between the inner lip of the iliac crest and the upper two lumbar (L1 and L2) vertebrae.
- The action is lateral flexion, but importantly it stabilizes the pelvis and lumbar spine.
- Trunk twisting and lateral flexion activate this muscle.

There are numerous other small muscles found in the spinal column region. Many of them have their origin on one vertebra and insertion on the next vertebra. These are important muscles, but the knowledge of these muscles is of limited value to most individuals.

So why is it important to strengthen the back and abdominal muscles if I am not going to lose my belly?

Back problems are a huge Australian, American and Canadian problem. It is estimated that 80% to 85% of the population, (approximately eight out of ten people), will experience lower back pain at some time during their lives. Of these, 30% of back injuries happen to those under 30 years of age. It has been identified in Australia and America, that back pain is actually the most frequent cause of limited activity in those under 45 years of age.

There is a direct correlation between back health and abdominal fitness. Strong rectus abdominis muscles counteract short or tight hip flexors, which may be responsible for an exaggerated anterior pelvic tilt (excessive arch of the back or lordosis). Strong oblique muscles reinforce the erector spinae fascia, and pull it laterally resulting in less strain on the back extensor muscles and spinous ligaments.

What is trunk stabilization and why is it important?

Trunk stabilization is all about ensuring muscle balance, trunk stability and strength. The torso muscles work as a team to control movement within the torso, and give more power for other activities.

These activities include sitting up in bed, sitting in a chair, swimming, playing tennis, lifting or chasing a dog (activities of daily living, 'ADL').

Strengthening the rectus abdominis and the back extensors will reinforce correct posture. This is achieved by reduced stress on ligaments, intervertebral discs, and joint structures. Also space is provided inside the torso for the internal movements required for breathing, digestion, and organ function. Strengthening the obliques is important because they create a supportive 'corset' or 'girdle of strength'.

How do I achieve trunk stabilization?

Trunk stabilization can be achieved by addressing four components in an aquatic exercise session including:

1. Strength

- Address trunk extensor, flexor and lateral structures, as well as the pelvic floor.
- Cue correct posture at all time.
- Include isometric exercises and compound exercises. Determine when, how and where to include these exercises. Consider speed of motion, which and how much equipment is appropriate, water depth, body position, buoyancy and what exercises are appropriate for the attending population group.

2. Stretching

- Keep the lumbar region both strong and flexible to encourage lumbar stabilization. Muscle length tension is one of the keys of muscle balance.
- Include stretches for the hamstrings, abdominals and lower back.
- Use buoyancy to aid stretching – for example put a flotation belt under the thigh when performing a standing hamstring stretch.

3. Alignment and Posture

- Adapt the stretch according to the needs of the attending group. Due to the magical properties of water (turbulence, viscosity and buoyancy), alignment and posture can be difficult to maintain with dynamic exercises. This may be an advantage for stronger, more advanced groups or difficult for weaker, more inexperienced groups.

4. Aerobic Conditioning

- Research regards aerobic exercise as being very beneficial for trunk stabilization.

- Focus on the aerobic component of aquatic exercise to achieve improvements in cardiovascular and muscular endurance, strength and posture.

Torso Strengthening Key Points

Water walking and running is excellent for strengthening and stabilizing the abdominals and lower back. If the client stands up straight, the abdominal muscles work isometrically and co-contract with the back muscles. If the client leans forward, stress is put on the back muscles, and the abdominal muscles work minimally, if at all.

- STAND UP STRAIGHT
- AVOID LEANING FORWARD
- MAINTAIN NEUTRAL PELVIS

The double concentric contraction facilitated by the resistance of water allows the lower back to generally receive strengthening in the abdominal component of a class.

- MAINTAIN CORRECT POSTURE THROUGHOUT

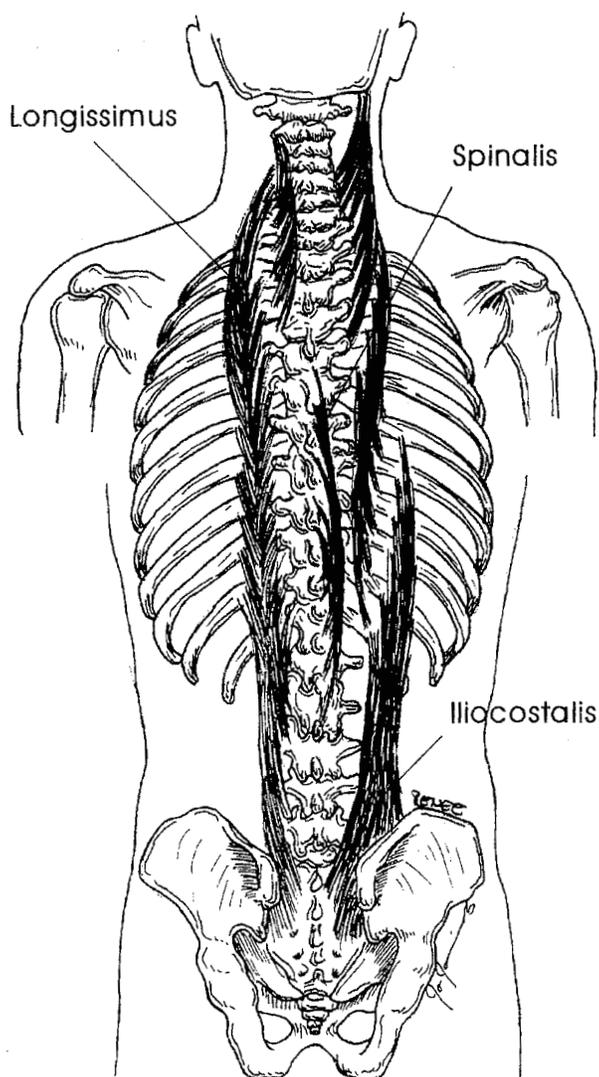
Hip Flexor Paradox

The hip flexors are the iliopsoas muscles, a group of muscles originating on the inner surface of the ilium, base of the sacrum and sides of the bodies of the last thoracic, and all the lumbar vertebrae. The action is to flex the hip and outwardly rotate the femur.

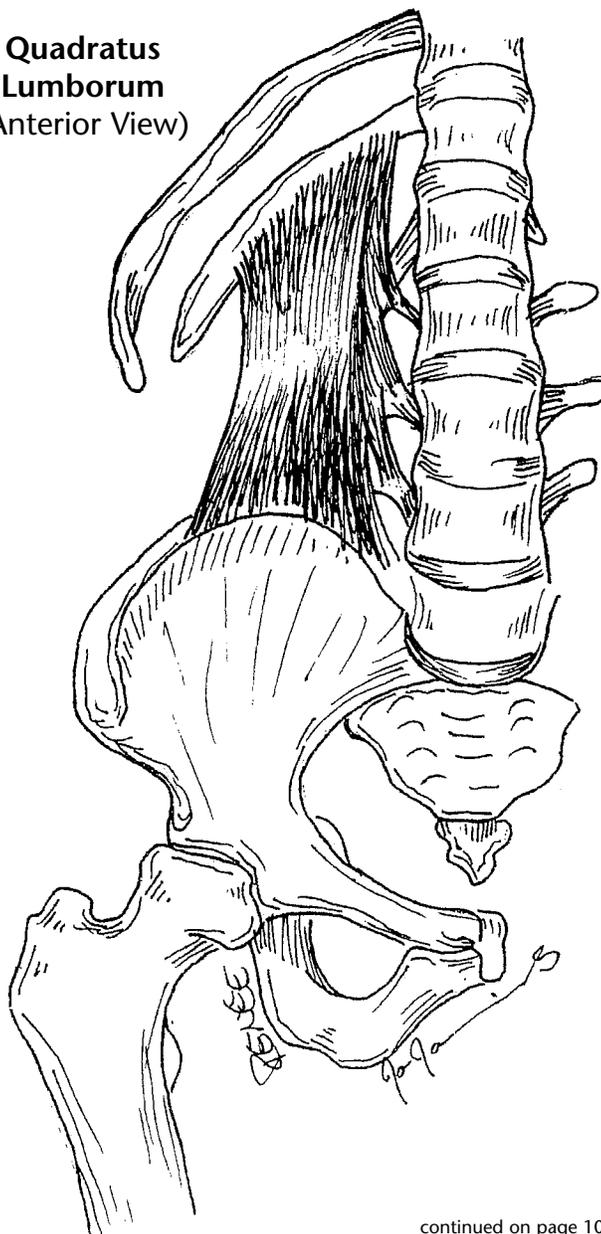
Be aware of what activates the hip flexors when performing abdominal exercises. If focusing on strengthening abdominals, place the hip flexors into a position that will limit activation. Here are some points that will decrease the hip flexor involvement when working the abdominal muscles.

- Avoid going beyond 35° to 40° of hip flexion.
- Avoid more than 20° to 30° of trunk flexion.
- Avoid more than 9° to 10° of a pelvic tilt.

Spinal Extensors (Erector Spinae)

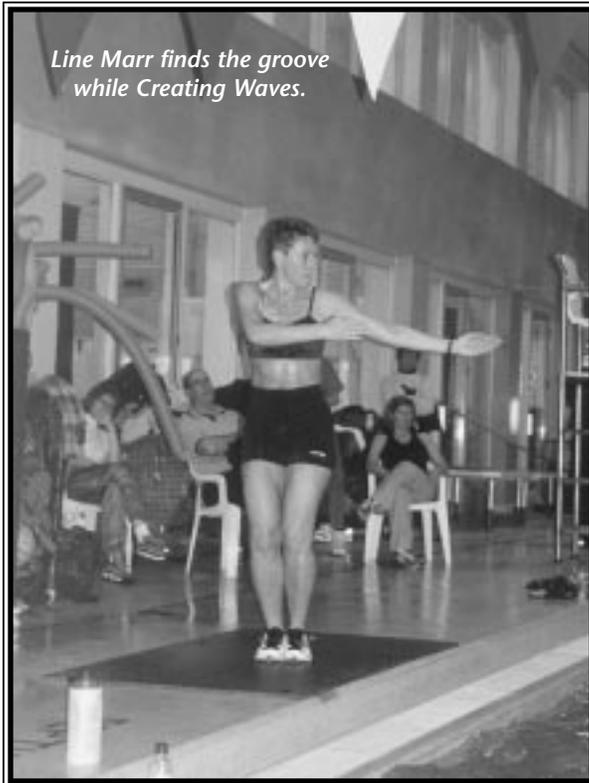


Quadratus Lumborum (Anterior View)

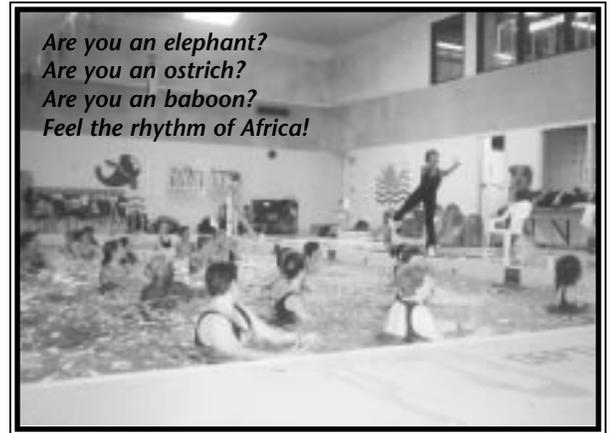


continued on page 10

CALA CONFERENCE 2002
EXCLUSIVELY WATER
 THANKS TO ALL WHO
 CONTRIBUTED TO THE SUCCESS
 OF THIS EVENT



Line Marr finds the groove while Creating Waves.



*Are you an elephant?
 Are you an ostrich?
 Are you a baboon?
 Feel the rhythm of Africa!*

The Presenter Team

- Pia Francis.....(Derby, UK)
- Elizabeth Fox.....(London)
- Dylan Harries.....(Ottawa)
- Marie-France Hebert.....(Montreal)
- Connie Jasinkas.....(Cambridge)
- Charlene Kopansky.....(Toronto)
- Jodie Kottick.....(Sudbury)
- Line Marr.....(Hull)
- Jennie Queen.....(Ottawa)
- Pat Richards.....(Guelph)
- Donna Reeves.....(Mont Tremblant)

The Volunteer Team

- Wendy Andruski.....(Thunder Bay)
- Ali Bassir.....(Toronto)
- Maryvonne Berthault.....(Mont Tremblant)
- Lisa Bixel.....(Toronto)
- Jocelyn Bornstein.....(Toronto)
- Karen Cook (Kopansky).....(Oakville)
- Rosey Cowan.....(Qualicum Beach, B.C.)
- Lisa Fleischman.....(Toronto)
- Leesa Forsey (Kopansky).....(Toronto)
- Marie-France Hebert.....(Montreal)
- Stacey Heldman.....(Vancouver, B.C.)
- Adele Hickey.....(Toronto)
- Matt Kopansky.....(Bancroft)
- Sylvia Kopansky.....(Bancroft)
- Dona Lopez.....(Hamilton)
- Antonia McGuire.....(Ottawa)
- Shelagh Noonan.....(Sunshine Coast, B.C.)
- Nancy Sawler.....(Toronto)
- Jennifer Steele-Allen.....(Kingston)
- Nancy Wilson (Kopansky).....(Oakville)
- Christina Wolske.....(Toronto)
- Erit Zajdfudem.....(Richmond Hill)



The Deep Water - not an inch of space remaining in the Olympic Size Pool.



CALA delegates taking it all in - on deck!

CALIA CONFERENCE 2002

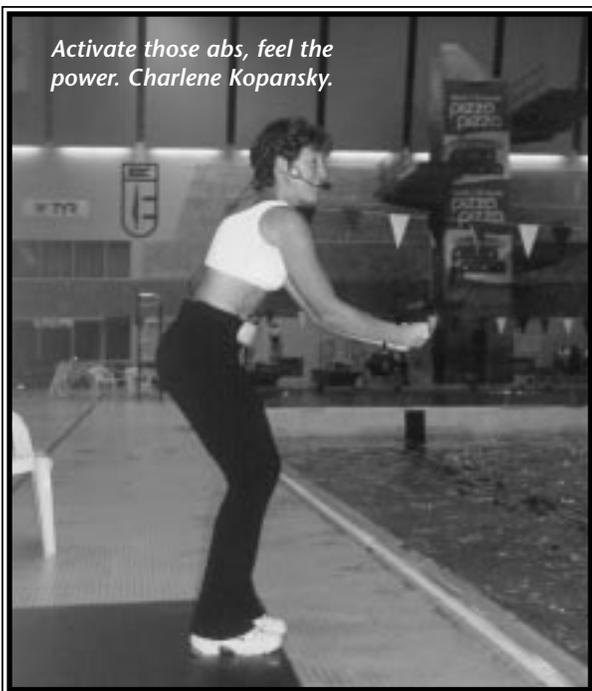


Marie-France, 1st time presenter 'rocks' the pool

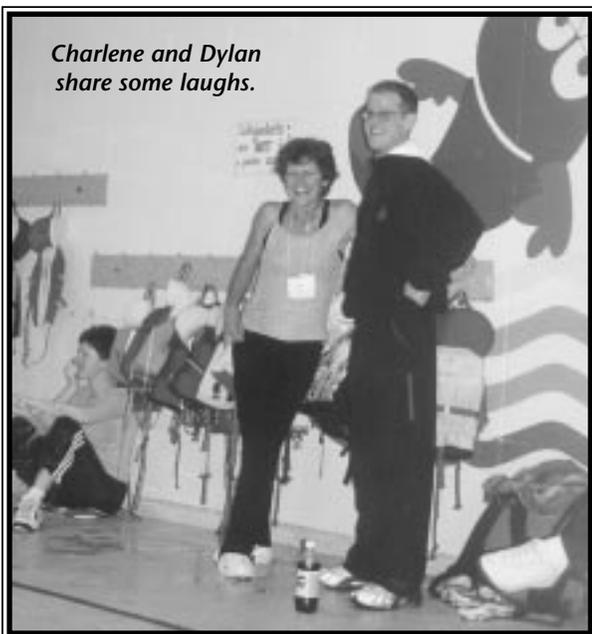


The Sponsor and Trade Show Team

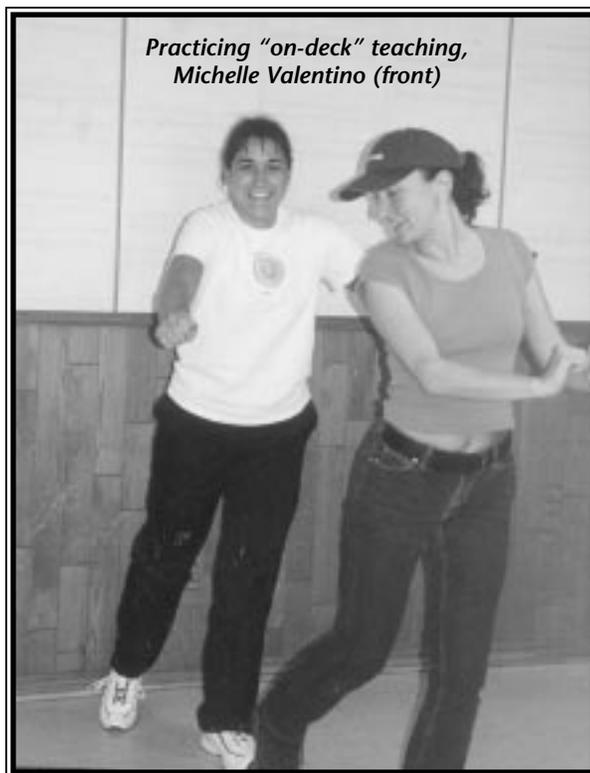
- 360° of Health
- AVON Canada
- Bodywise
- Burntrax Music
- CanFitPro
- City CPR
- Dominion - Bayview/Eglinton
- Fitness Institute - Willowdale Club
- Fitness Marketing Group - Dynamix Music
- Future Shop - Leaside
- Healthwinds SPA
- Kreations Active Wear
- Loblaws - Yonge & East Mall Stores
- Toronto Truck Theatre
- No Frills - Etobicoke
- Omni Swim
- Power Music
- Pure and Simple
- Relax to the Max
- SOCAN
- Splashables
- Sports & Fitness Insurance Co.
- Tea Council of Canada
- Usana Cellular Nutrition
- Wallmart



Activate those abs, feel the power. Charlene Kopansky.



Charlene and Dylan share some laughs.



Practicing "on-deck" teaching, Michelle Valentino (front)

- Avoid including the legs in exercises designed to target the abdominal region. This is strengthening an already strong muscle, the iliopsoas.
- Too large a 'range of motion' when performing abdominal exercises increases hip flexion and pulls the sacrum forward, causing the pelvis to tilt excessively forward.

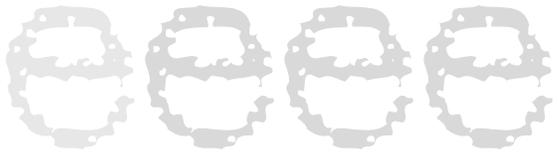
Examples of Standing Aquatic Exercises for Torso Strengthening and Stabilization

a) curling combination

- woggle/noodle placed on abdomen and cross arms to hold in place
- use the abdominals to push the woggle/noodle down, not the arms
- curl down x 1, curl up x 1 and combine x 2
- focus: rectus abdominis, erector spinae, pelvic floor (on curl up) and stabilization
- CALA alternative included without the use of a woggle/noodle - stand in chest deep water, stay anchored, place flat hands side by side in front of the abdomen, palms facing pool floor for maximum surface area – perform exercise as described above

b) oblique pushdown

- place woggle/noodle around the back
- lateral pushdown alternatively and/or lateral pushdown x 3, return to midline and repeat other side
- focus: internal obliques, quadratus lumborum and stabilization
- CALA alternative - stand in chest deep water, stay anchored, place flat hands side by side at the side of your waist, palms facing pool floor for maximum surface area – perform exercise as described above (or do CALA 'side kayak arms' with a focus on the push down phase of the movement)



CALA would like to use email more often and try to decrease our use of paper!!!
 Let us know your email address.
 We also need to know if you have a new email address!
 Include your name when you send us your email address: cala@interlog.com
 Thanks

c) oblique twist

- place woggle/noodle around the back
- oblique twist with deep squat, alternating singles
- introduce combination of single, single and double, repeating each side
- focus: external obliques, quadratus lumborum and stabilization
- CALA alternative - stand in chest deep water, place flat hands one on top of the other, in front of abdomen and pelvis, palms facing pool walls for maximum surface area – perform exercise as described above (CALA 'tai chi arms' with or without narrow swivel)

d) tumble weed

- place woggle/noodle around the back
- sit, kick both legs forward and stand up, pushing the woggle behind the body
- focus: transverse abdominis and stabilization
- CALA alternative - stand in chest deep water or deep water, using a flotation belt, perform a unison narrow quad kick/ narrow tuck combo, with arms doing a unison tricep kick back on the kick and a unison hammer hands on the tuck. Take your time, counts as follows:

- Count #1: narrow tuck with unison hammer hands
- Count #2: return to vertical position (standing)
And: get into sitting position
- Count #3: sitting unison narrow quad kick with unison tricep kickback arms
And: into tuck position
- Count #4: return to vertical position (standing)

Diagrams courtesy of J. Jasinskas from The CALA Basics About Aquafitness Leadership Training Manual.

References

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ASK THE SEAHORSE

Q - Aqua weights

Hi, I am a personal trainer that has a client looking for the foam aqua weights, any idea where they can be purchased? We live in the Belleville/Trenton Ontario area and can access Toronto to Kingston to Ottawa. Your assistance would be greatly appreciated.

A - Dear Personal Trainer:

Unless you are doing very slow and controlled movements for therapy, CALA is not recommending the use of floating aqua weights. We have found through exercise analysis that the 'risk to benefit/effectiveness ratio' of this product does not warrant buying it. If your client is extremely athletic, very advanced and very strong, then the gloves are safe and can be an effective means to increase surface area and thus the amount of resistance. Otherwise, the effective use of water - using a flat hand, through a full range of motion at an appropriate tempo will provide an excellent workout. Teach the client to 'push and pull the water', using a strong mental and physical focus while



exercising. Usually people have not learned to use the water effectively and rely on products to create work. If the client cannot make the commitment to learning how to use the water as the training tool, they could contact "Splashables" to buy the floating weights... with risk to the following joints: wrist; radio-ulnar; elbow; shoulder...

If it is flotation, in deep water that the client is looking for, an aquafitness flotation belt is more appropriate, those we do recommend, and can be purchased through CALA.

I trust you will embrace this information and share it with your client.

If you would like more information about our training courses or workshops, please provide your complete address details and we will send you a package.

Sincerely,

Charlene

CALA AQUA MATT

A Must for all aquafitness leaders!

Details about the mat: It's a cellular urethane pool deck mat that comes in two sizes: 1.0 metre and 1.7 metres, easily portable, non-slip surface, ultra violet, chemical resistant & odourless, no maintenance required, immediate return to original thickness following rapid & repetitious impact.

Why buy it? Aqua Matt protects your most valuable asset - "you" - from damage to your joints and loss of earnings. Designed for the safety of the pool deck Aqua instructor, Aqua Matt provides maximum shock absorption for cushioning and protecting against impact and vibration and a non-slip surface to guarantee sure footing even when wet.

Price change effective immediately. Note: the price of the Aqua Mat has remained the same for members, but has increased for non members. Another advantage of membership with CALA.

This price increase was inevitable, due to the high cost of shipping from the USA.

CANADIAN PRICES: For CALA members

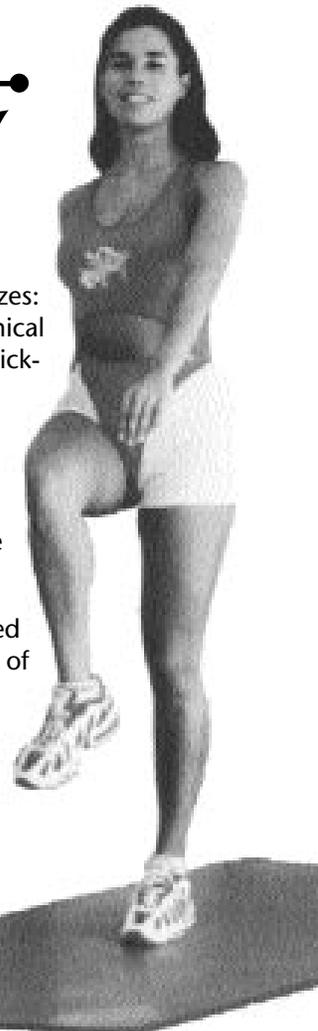
1.0 metre mat: \$152.50 + \$30.00 (S & H) + tax

1.7 metre mat: \$225.00 + \$30.00 (S & H) + tax

CANADIAN PRICES: For non members

1.0 metre mat: \$194.00 + \$30.00 (S & H) + tax

1.7 metre mat: \$255.00 + \$30.00 (S & H) + tax



SAFETY ISSUES

AQUAFITNESS FOR OLDER ADULTS? YOU BET!

Submitted by Elizabeth Fox, P.T., Aquatic Therapist, CALA Certified,
CALA Presenter – CALA Conference 2002.

Age-related changes in physical function affecting older water exercisers.

Parameter	Changes with Aging	Effects of Water Exercise
Muscular Strength	<ul style="list-style-type: none"> • Declines by ~1.5% per decade after age 60 • Number of motor units and muscle fibres decrease • Type II (fast twitch) fibre size decreases • Total muscle CSA decreases by ~10% after age 50 	<ul style="list-style-type: none"> • Isometric and isokinetic strength gains • Functional ability improves
Muscular Endurance	<ul style="list-style-type: none"> • Muscular endurance capacity similar to young adults • Ability to carry absolute load over time decreased • Post-exercise recovery time increased 	<ul style="list-style-type: none"> • Improved capacity to perform repeated joint actions per second



Bone Density	<ul style="list-style-type: none"> • Bone loss of 0.3 - 0.5% per year after 3rd and 4th decade • Men only lose 2/3 of bone mass lost by women • Bone loss can develop into Osteoporosis 	<ul style="list-style-type: none"> • Muscular traction provided by water resistance may increase bone density • Buoyancy eliminates high-impact stresses contraindicated for fragile bones but provides low-impact aerobic workout
Cardiovascular Endurance	<ul style="list-style-type: none"> • VO₂ max decreases ~10% per decade • HRmax decreases approx 1 beat/year • Stroke volume max decreases • Decreased cardiac output occurs as a function of decreased HR and stroke volume 	<ul style="list-style-type: none"> • Water walking HR at min of 147 bpm sufficient to maintain CV fitness in young individuals • Improved VO₂ and HR with water exercise comparable to training effects on land • Increased VO₂ max, HRmax, and work capacity in older adults • Decreased resting HR in older participants

Parameter

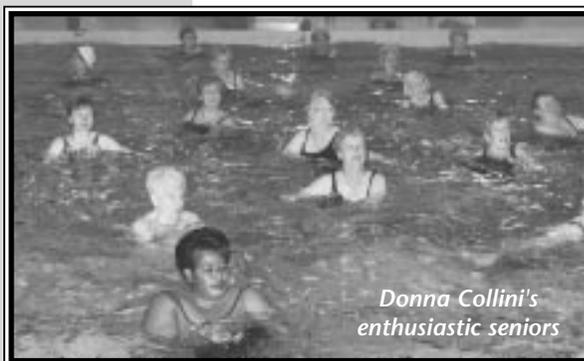
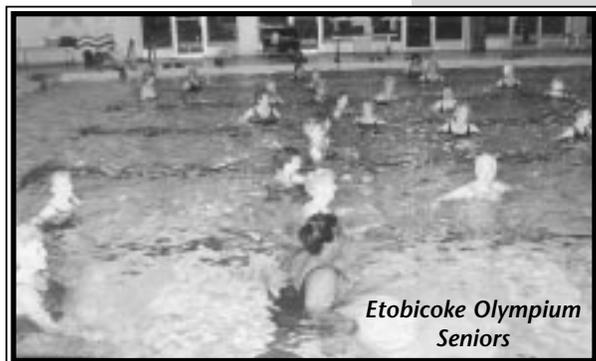
Balance, Proprioception and Reaction Time

Changes with Aging

- Neurological changes contribute to muscle atrophy
- 35% decreased number of spinal cord axons
- 10% decrease in nerve conduction velocity
- Sensory and proprioception deficits
- Reaction times slows
- Osteoarthritis contributes to balance deficits

Effects of Water Exercise

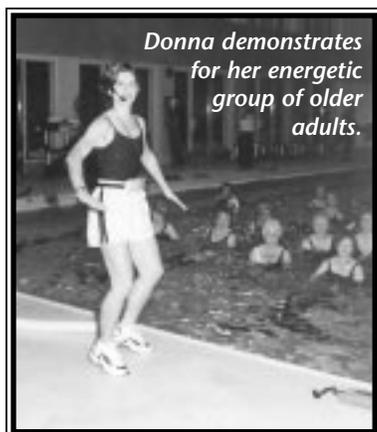
- Improved static postural sway measures
- Dynamic balance may also improve based on improved gait characteristics and speed
- Reaction time decreased



Osteoarthritis

- Degenerative changes restrict joint movement, impair balance, cause pain, and restrict activity

- Improved psycho-social well being
- Decreased adverse joint reactions
- Improved strength and ROM
- Improved gait
- Decreased pain



The information on this table on age-related changes in physical function and the reported benefits of water exercise programs for older people is adapted with permission from Lindsay et al, 2000.

CSA = cross sectional area; HRmax = maximal heart rate; VO₂max = maximal oxygen uptake

References:

1. American college of Sports Medicine. Exercise and physical activity for older adults. *Med Sci Sports Exerc* 1996; 30(6):992-1008.
2. Krishnathason D, Vandervoort AA. Eccentric training prescription for older adults. *Top Geriatr Rehabil* 2000; 15:29-40.
3. Lexell J. Aging and human skeletal muscle: observations from Sweden. *Can J Appl Physiol* 1993; 18:2-18.
4. Porter MM, Vandervoort AA, Lexell J. Aging of human muscle: structure, function and adaptability. *Scan J Med Sci Sports* 1995; 5:29-142.
5. Ruoti RG. The effects of calisthenic water exercise on selected work, physiological and blood parameters of older adults. Unpublished doctoral dissertation, Temple University, Philadelphia.
6. Sanders ME, Constantino NL, Rippee NE et al. A comparison of results of functional water training on field and laboratory measures in older women [abstract]. *Med Sci Sports Exerc* 1997; 29(5) Suppl:S110.
7. Sanders ME, Maloney-Hills C. Aquatic exercise for better living on land. *ACSM's Health Fitness J* 1998; 2(3):16-23.

CALA CERTIFIED MEANS CLEARLY QUALIFIED

*CONGRATULATIONS TO THE FOLLOWING
LEADERS WHO HAVE RECENTLY ACHIEVED
CALA CERTIFICATION.*

Suzanne Arsenaault
Simin Bassir
Kathy Callaghan
Sharon Denton
Norrine Fawcett
Rachel Girard
Pat Grosse
Julie Hiemstra
Megan Messenger
Johnny Nesgaard
Tim Page
Kelly Patrick
Irene Vaneenoo
Dawn Wells
Erit Zajdfudem

*CALA CERTIFIED in WATER RUNNING
and AQUAJOGGING*
Colin Hyland
Allan Warner

*CALA RECERTIFIED! WOW, THREE YEARS LATER & STILL GOING STRONG.
WELL DONE & HUGE CONGRATULATIONS TO THE FOLLOWING LEADERS
WHO RECENTLY RECERTIFIED WITH CALA*

Dana Bach
Morven Barnes
Linda Bevilacqua
Cindy Cotterill
Karen Doutré
Katie Farrow
Pauline Johnson
Charlene Kopansky
Victoria Kullas
Tanya Labreque
Dona Lopez
Karen MacDonald
Fran Maguire
Monica Marquis
Gerry McCready
Leslie Moggridge
Debbie Palmer
Carolyn Quantrill
Linda Rampen
April Reding
Trudy Rivard
Barbara Sawler
Elizabeth Spencer
Debbie Stokke
Francis Tucker
Michele Valentino
Monique Vanderlinden
Shirley Watchorn
Lynn Wilson
Corinna Wong

*Please contact the CALA office if you
notice your name is misspelled or missing from the lists
above. We do apologize if we missed you this time.*



**ANNOUNCEMENT!
A NEW TRAINER IS APPROVED**

WELCOME TO
WENDY ANDRUSKI

TO THE CALA TEAM

NOW AN APPROVED CALA TRAINER.

Wendy completed her apprenticeship in June 2002, to positive feedback from her first CALA course participants. Wendy lives in Thunder Bay and has big plans to keep the positive CALA energy flowing in this vast northern region. Good luck Wendy and congratulations.

**PERSONAL PORTABLE AMPLIFIER
WITH HEADSET
& LAPEL MICROPHONES**



**A GREAT HELP FOR AQUAFIT
INSTRUCTORS**

For purchase information or questions, please contact:

Rami Shalev,
Phone # (416) 222-4800 Fax # (416) 222-9554
Email: rshalev@sympatico.ca

TWO PURCHASE OPTIONS ARE AVAILABLE

- OPTION 1: AMPLIFIER UNIT, COMES WITH NO BATTERIES. SIX AA ALKALINE BATTERIES ARE REQUIRED. PRICE: \$180.00 + TAXES.
- OPTION 2: AMPLIFIER UNIT, COMES WITH 6 AA RECHARGEABLE NICAD BATTERIES AND AC ADAPTER. PRICE: \$205.00 + TAXES

PLEASE ADD \$12.00 FOR SHIPPING & HANDLING IN ONTARIO
PLEASE CALL FOR SHIPPING & HANDLING CHARGES OUTSIDE ONTARIO

INDIVIDUALS WITH QUALITY, INTEGRITY AND COMMITMENT

CALA COURSE GRADUATES FROM CALA FAST TRACK AND TOTAL TRACK AND SPECIALTY COURSES TO MAY 31, 2002

After checking the last two issues of our newsletter, I discovered that several lists of grads were missing. I do apologize if we missed your name, and have included the missing courses and participants in this issue.

GUELPH, ON

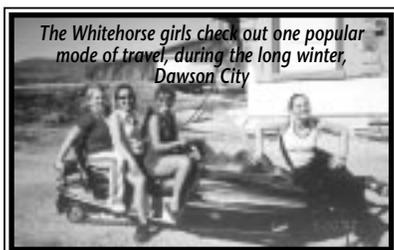
TOTAL TRACK, NOV 2001
Robin Andrews
Vanessa Everrett
Susan Garlock
David Hatch (FT)
Jodi Lunn
Bailey Van Watershoot
Irene Vaneeno (FT)
Candice Vecmanis
Carolyn Wilkie
Trainer: Pat Richards

Hugo Lavoie
Chantal Leburn
Rebecca Leduc
Jimmy Levesque
Thetford Mines
Daniel Paré
Martin Paré
Vincent Paré
Jean-François Poulin
Dominique Provençal
Dorothée Simard
Isabelle Trudel
Trainer: Nancy Shannon

WOLFVILLE, NS
FAST TRACK, MAY 2002
Jill Bishop
Sherry Brown
Angela Curry
Patrick Savoury
Alicia Short
Vivian Tectonides
Trainer: Dianne Levy



*Dawson City Fast Track graduates, 30° C....
the hottest place in Canada, May 2002*



*The Whitehorse girls check out one popular
mode of travel, during the long winter,
Dawson City*

MONTREAL, PQ
FAST TRACK, DEC 2001
Genevieve Boivin
Tania D'Alessandro
Ann Gauthier
Martine Leclerc
Christine LeSage
Trainer: Marie-Claude Leblanc

DAWSON CITY, YK
FAST TRACK, MAY 2002
Gina Anderson
Lianne Bilodeau
Chantelle Bode
Marni Bramadat
Vanessa Brauly
Sara Chorney
Mimi Elliott
Heather Grantham
Marie-Soleil Harvey
Andrea Mansell
Stacey McDiarmid
Brandi Moneyppenny
Vicki Roberts
Marta Selassie
Amanda Verschuere
Cathy Wood
Trainer: Charlene Kopansky

HULL, PQ

TOTAL TRACK, NOV-DEC 2001

Karine Bosse
Stella Brunet
Natasha Gagnon
Stefanie Gingras
Rachel Girard
Keynia Gosselin
Livia Hodgson
Trainer: L. Marr & C. Morissett

BURNABY, BC

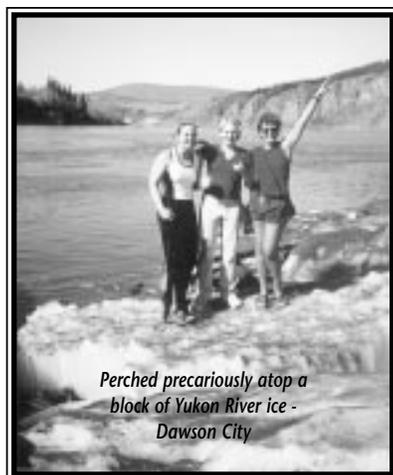
TOTAL TRACK, MAR 2002

Jen Beach
Meaghan Burr
Peter Cordoni III
Nick DeVita
Ryan Hietanen
Lisa McQuitty
Michelle Moniz
Erin O'Melinn
Carlie Thauvette
Katie Wruck
Trainer: Dianne Levy
Apprentice: Stacey Heldman

SHERBROOKE, PQ

FAST TRACK, DEC 2001

Marie-Pierre Arsenaault
Melissa Audet
Emmanuel Baril
Patrick Beauchemin
Alex Bernier
Marie-Claude Blain
Razvan Butta
Eric Carignan
Elyse Daoust
Sebastien Despars
Amélie Dulac
Charles-Oliver Dumont
Alex Duquette
Paul EL-Haddad
Catherine Ferland
Vanessa Fournier
Eve Gendron
Michael Laplante



*Perched precariously atop a
block of Yukon River ice -
Dawson City*

THE SPECIALTY COURSES

CALGARY, AB
WATER RUNNING, MAY 2002
Amy Anderson
Ruby Dunai
Colin Hyland
Emm Kutryk
Erin Olmstead
Lynn Wilson
Trainer: Michelle McLaren

Please contact the CALA office if you notice your name is missing from the lists above. We do apologize if we missed you this time. Please inform CALA if your name has been spelled incorrectly.

CONFERENCES

Earn CALA Credits & credits with all Provincial & National organizations

MUNCHEN ATTACK AQUA & EVERGREEN FITNESS

Date: July 20, 21, 2002 Location: Munich, Germany
Presenters: D. Dieterich, Yvonne Haug, P.Uhlir, M. Krauss, E. Kamjunge and C. Kopansky
Workshops: Aqua Kick Box; Maximum Abs; Aqua Team Teaching; Aqua Spinning and Aqua Celebration

CATCH THE EASTERN WAVE IX

Date: September 7, 2002 Location: Sackville, Nova Scotia
Presenter: Jennie Queen from Ottawa, Ontario
Workshops: Amazon Arms! Crunch; On Stage; Tethered Training
Registration: Chris Merry or Bettie Ann Clarke @ 902-869-4141 x308

CATCH THE WESTERN WAVE

Date: October 26, 2002 from 11:30am - 6:30pm
Location: The Talisman Centre, Calgary, Alberta
Presenter: Charlene Kopansky, Ontario
Workshops: Maximum Abs & Seniors Strength Training
Registration: Jill Pitt @ (403) 233-8393, ext. 149

SASKFIT 2002

Date: November 1, 2, 3, 2002 Location: Saskatoon, Saskatchewan
Presenter: Charlene Kopansky (for aquafitness)
Workshops: Aqua Kick Box; Communication: Top Deck; No Equipment, No Problem; and Seniors Strength Training

H2Oz - Australia

Date: November 9, 10, 16, 17, 2002
Location: Melbourne, Sydney, Newcastle, Perth, Australia
Presenter: Charlene Kopansky
Workshops: Aqua Africana; Aqua Spinning; and Seniors Strength Training

WORKSHOPS AND SPECIALTY COURSES

KITCHENER, ONTARIO

SPECIALTY COURSE - AQUA ARTHRITIS
Exact dates and registration information to be determined
Date: July 2002 - 22 hours (To be determined) Location: Kitchener, Ontario
Registration: YWCA of Kitchener, Attention: Melanie Simms
Call CALA for details: 1-888-751-9823 or email: cala@interlog.com
Trainer: Connie Jasinskas
Credits: 22 CALA, 22 NSFLAA, & FIS (CanFitPro), YWCA, YMCA

DARTMOUTH, NOVA SCOTIA SPECIALTY COURSE - WATER RUNNING

Date: Saturday, July 6, 2002 - 8 hours
Location: Dartmouth Sportsplex, 110 Wesley Road, Dartmouth, NS B3A 1M2
Registration: Dartmouth Sportsplex, Debbie Murphy
Ph: 902-464-2600 ext. 311 or Fax: 902-464-2902
Credits: 7 CALA, 7 NSFLAA, & FIS (CanFitPro), YWCA, YMCA

CERTIFICATION for WATER RUNNING (optional)

Date: Sunday, July 7/02, scheduled theory exam and practical assessments
Location: Dartmouth Sportsplex, 110 Wesley Road, Dartmouth, NS B3A 1M2
Registration: Dartmouth Sportsplex, Debbie Murphy
Ph: 902-464-2600 ext. 311 or Fax: 902-464-2902
Theory exams (one hour) are open book and written in a group setting. Practical assessments require a 45 minute time slot per person and must be booked through Debbie Murphy at the Sportsplex.

CHARLOTTETOWN, P.E.I.

A variety of workshops and certification
Location: Charlottetown Recreation Centre, Charlottetown, Prince Edward Island
Registration: Charlottetown CRC, (Tom Baker) Ph: 902-892-6555 or Fax: 902-892-2510
i. Applied Physiology and Applied Anatomy
Date: Friday July 12, 2002 from 5:30 pm - 9:30 pm
ii. Aqua Kick Box & Aqua Spinning
Date: Saturday July 13, 2002 from 8:30 am - 12:30 pm
Credits: 4 CALA, 4 NSFLAA, & FIS (CanFitPro), YWCA, YMCA
iii. Aquafitness Certification with CALA
you must be a current CALA member & a CALA course graduate to try certification
Date: Saturday July 13, 2002 from 1:00pm
These certifications are booked & paid for through CALA

CALA • 125 Lillian Dr.,

Toronto, ON, Canada M1R 3W6

Tel: (416) 751-9823 • 1-888-751-9823

Fax: (416) 755-1832

cala@interlog.com • www.calainc.org

OWEN SOUND, ONTARIO

Workshop: Aqua Kick Box,
Seniors Strength Training and Aqua Spinning
Date: Sept. 7, 2002
Location: The Stone Tree Golf and Fitness Club
Registration: Phone Janet: 519-376-7899 or Fax: 519-376-5530
or Email: stree@stonetree.on.ca
CECs: 7 CALA, CanFitPro, OFC, YMCA, YWCA

HAMILTON, ONTARIO

SPECIALTY COURSE - AQUA ARTHRITIS (20 hrs)
Date: October 19, 20, 21 2002
Location: YWCA of Hamilton, 75 McNab Street South, Hamilton, Ontario
To register or for more information contact Tara Weiderick (Jones) at:
905-522-9922 ext 107
Trainer: Connie Jasinskas
CECs: 20 CALA credits, plus credits with NFLAC, OFC, CanFitPro (FIS), YWCA

OTTAWA, ON

i. Aqua Pre-Natal and ii. Aqua Motion
Date: Sunday, October 27, 2002 from 3:00 pm - 6:00 pm
Location: Ray Friel Centre, 1585 Tenth Line Rd., Orleans, ON K1E 3E8
Registration: Contact CALA
Trainer: Line Marr
Credits: 3 CALA, 3 OFC, & FIS (CanFitPro), YWCA, YMCA

CALGARY, ALBERTA

Aqua Spinning Part II
Date: Monday, November 4, 2002
Location: Westside Regional Recreation Centre, Calgary, Alberta
To register or for more info contact Tracey Currie 403-531-5875 ext. 229
Fax: 403-571-7698 Email: tcurrie@westsiderec.com
Trainer: Charlene Kopansky
Credits: AFLCA, CALA, CanFitPro (FIS), OFC, YMCA, YWCA

AQUAFITNESS LEADERSHIP TRAINING COURSES

Details you need to know: CALA offers you the option of taking one weekend of the course (Fast Track) or both weekends of the course (Total Track). The TOTAL TRACK is highly recommended for everyone. The longer course affords more time for practice in the pool and on the pool deck and prepares the leader for certification with more opportunity for in depth theory. The 'Fast Track' course is an abbreviated version of the 'Total Track' course which is 44 hours in length. The shorter course (22 hours) is suitable for the advanced instructor with in depth knowledge of anatomy, physiology and aquafitness leadership

OTTAWA, ONTARIO

CALA Aquafitness Leadership Training Course 'Fast Track' (22 hrs)
Date: July 5, 4:30pm - 9:30pm, 6, 9am - 7pm, and 7, 9am - 5pm, 2002
Location: Nepean Sportsplex Aquatic Center, 17001 Woodroffe Ave. Ottawa
To register or for more information contact the Centre: 613-727-6665 x265
Trainer: Jennie Queen
Recognized by NFLAC, OFC, CanFitPro (FIS), YWCA

HAMILTON, ONTARIO

CALA Combined Basic Fitness Theory and Aquafitness Leadership Training Course "Total Track" (44 hrs)
Date: July 19, 20, 21 and July 26, 27, 28 2002
Location: YWCA of Hamilton, 75 McNab Street South, Hamilton, Ontario
To register or for more info, Tara Weiderick (Jones) 905-522-9922 ext 107
Trainer: Tara Weiderick
Recognized by NFLAC, OFC, CanFitPro (FIS), YWCA

HAMILTON, ONTARIO

CALA Aquafitness Leadership Training "Fast Track" (22 hrs)
Date: July 19, 20, 21 2002
Location: Same as above (Total Track), Hamilton, Ontario

OTTAWA, ONTARIO

CALA AQUAFITNESS CERTIFICATION
Date: Theory Exam (open book) July 20, 2002 from 12:00 pm to 3:00 pm
Practical Assessment: July 20, 2002 from 4:00 pm to 6:30 pm
Location: Nepean Sportsplex Aquatic Center, 17001 Woodroffe Ave. Ottawa, ON
To register or for more information contact the Centre: 613-727-6665 x265
Assessor: Jennie Queen

ESPAÑOLA, ONTARIO

SUBSIDIZED COURSE - NORTHERN ONTARIO
CALA Aquafitness Leadership Training Course 'Fast Track' (22 hrs)
Date: July 26, 27, 28 2002
Location: Espanola Regional Rec. Complex, Espanola, Ontario
To register or for more information contact Debbie Sokoloski:
705-869-1961 X 25 Fax: 705-869-6697
Email: dsokoloski@town.espanola.on.ca
Recognized by NFLAC, OFC, CanFitPro (FIS), YWCA

HULL, QUEBEC

CE COURS SERA OFFERT EN FRANÇAIS (COURSE IN FRENCH)
Formation en théorie du conditionnement physique et spécialisation en aquafitness CALA (le cours "Total Track") (44 hrs)
dates: les 9, 10, 11 août et les 23, 24, 25 août 2002
endroit: URLSO - Université de Hull: Faculté d'éducation physique, Gatineau, QC
Pour l'inscription et d'autres détails, veuillez rejoindre Johanne Charron
tél: 819-243-2345 ext 2553 fax: 819-243-2576
Email: charron.johanne@ville.gatineau.qc.ca
Entraîneurs: Line Marr et Catherine Morisset
Reconnu par NFLAC, CanFitPro, CPTN

BURNABY, BRITISH COLUMBIA

CALA-BCRPA Combined Basic Fitness Theory and Aquafitness Leadership Training Course "Total Track" (44 hrs)
Date: August 12 - 16 (from 9am - 5pm) 2002
Location: Simon Fraser University, Burnaby, British Columbia
To register or for more information contact the University at phone: 604-291-4142
Trainer: C. Kopansky and S. Heldman
Recognized by BCRPA, NFLAC, CanFitPro

TORONTO, ONTARIO

CALA Aquafitness Leadership Training 'Fast Track' (22 hrs)
Date: Sept. 6, 7, 8 2002
Location: Cedarbrook Community Centre, Toronto, Ontario (in Scarborough at Markham and Lawrence)
To register or for more information call CALA at: 416-751-9823
Trainer: Tara Weiderick
Recognized by NFLAC, OFC, CanFitPro (FIS), YWCA

TORONTO, ONTARIO

CALA Combined Basic Fitness Theory and Aquafitness Leadership Training Course "Total Track" (44 hrs)
Date: Sept. 6, 7, 8 and Sept. 13, 14, 15, 2002
Location: Cedarbrook Community Centre, Toronto, Ontario (in Scarborough at Markham and Lawrence)
To register or for more information call CALA at: 416-751-9823
Trainer: Tara Weiderick
Recognized by NFLAC, OFC, CanFitPro (FIS), YWCA

GUELPH, ONTARIO

CALA Combined Basic Fitness Theory and Aquafitness Leadership Training Course "Total Track" (44 hrs)
Date: November 1, 2, 3 and 8, 9, 10 2002
Location: University of Guelph, Guelph, Ontario
To register: 519-824-4120 x2742 or Email: prichard@uoguelph.ca
Trainer: Pat Richards
Recognized by NFLAC, OFC, CanFitPro (FIS), YWCA

GUELPH, ONTARIO

CALA Aquafitness Leadership Training "Fast Track" (22 hrs)
Date: November 1, 2, and 3 2002
Location: Same as above (Total Track), Guelph, Ontario

GUELPH, ONTARIO

CALA Combined Basic Fitness Theory and Aquafitness Leadership Training Course "Total Track" (44 hrs)
Date: February 7, 8, 9 and February 28, March 1, and 2, 2003
Location: University of Guelph, Guelph, Ontario
To register: 519-824-4120 x 2742 # or Email: prichard@uoguelph.ca
Trainer: Pat Richards
Recognized by NFLAC, OFC, CanFitPro (FIS), YWCA

GUELPH, ONTARIO

CALA Aquafitness Leadership Training "Fast Track" (22 hrs)
Date: February 7, 8, and 9, 2003
Location: Same as above (Total Track), Guelph, Ontario

