

STROKEARCS

The Newsletter of the Association of Rowing Coaches, South Africa

No 2, April 2006

I would like to thank all the readers of this newsletter for the positive feedback I have received since the first edition was published last month. I am pleased that the development of a coaching association has been so well received and supported by the rowing community.

This second edition's *Main Articles* contains a follow on piece from Rowing & Regatta Magazine regarding the importance of hamstring flexibility in allowing the development of good technique in the early phase of the recovery. To supplement this I have included a short extract from a book by Michael Boyle called Functional Training for Sport, concerning the importance of the hip extensors in sports involving major leg movements. I would recommend this book to all coaches who wish to expand their knowledge in the area of Strength & Conditioning. There is an article on how to fairly run seat racing, written by an American, Ted Nash, and finally an article on warming up for your session or race by Ed McNeely.

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BIOMECHANICS

POSITION AND TECHNIQUE IN EARLY RECOVERY

Last issue, we identified that rowers have a pelvis that tilts, a spine that bends, and muscles that act to stabilize and move joints. We can now look at the early part of the recovery; what muscles should be activated, and why flexibility and the core muscles important in allowing the correct body position to be attained and sustained?

What muscles should be activated in early recovery?

At the finish of the stroke you should have your legs firmly pressed against the foot stretcher. You should feel that your gluteal (bottom) and quadriceps (thigh) muscles are activated throughout the finish of the stroke.

From backstops, as your hands lead away, you should draw down on your lower abdominal muscles rather than pulling yourself over using your hips. The momentum of your moving hands, as well as the action of the lower abdominals and activation of the gluteals and quadriceps will allow you to tilt your pelvis forward (pivot from the hips)

If you have co-ordinated the recovery sequence correctly, you will feel your bodyweight on your seat in the front of the bones in your bottom (your ischial tuberosities). By drawing in your lower abdominals as you approach frontstops, you will maintain a strong trunk (catch) position.

How does flexibility affect technique in early recovery?

Rocking the pelvis over to a comfortable and strong position off back stops and achieving all body-swing by half slide is emphasized as part of *British Rowing Technique*.

Good flexibility is essential to do this; it allows you to tilt your pelvis forward, whilst keeping your back straight and in line with your pelvis. On the other hand, poor flexibility can prevent you from attaining this body position.

Poor flexibility will limit technique!

If you have poor flexibility in your hamstrings (often as a consequence of poor core stability, strength or endurance) your short muscles will restrict the forward tilt of your pelvis with your legs straight. Your pelvis and lumbar spine will not therefore be aligned.

TOP TIPS

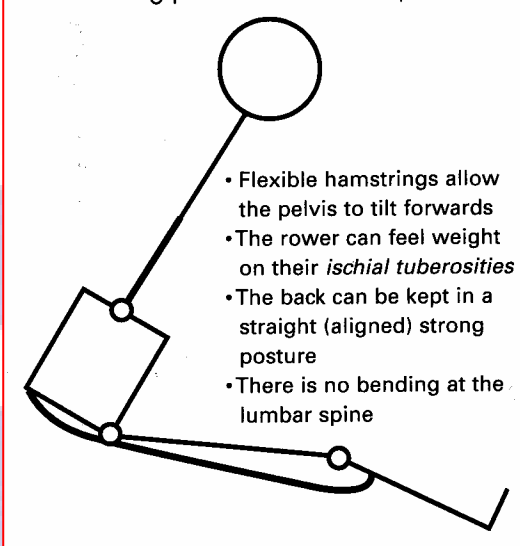
What to do in practice...

1. Test your flexibility

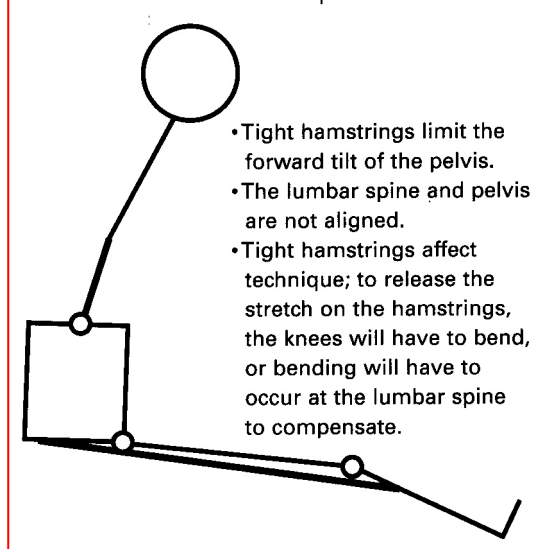
One way to test your flexibility is to sit on a good finish posture on a rowing machine and to see how far you can pivot forward from the hips, whilst tilting your pelvis forward and keeping your back straight and aligned. If you have poor flexibility, you may not be able to pivot your body forwards of vertical.

Another way to test your hamstring flexibility is to sit on a table or bench, with your lower legs hanging over the edge. Straighten one leg out. How high can you lift the leg without your pelvis rotating backwards?

Good hamstring flexibility allows the correct body position off backstops.



Poor flexibility can mean poor posture off backstops.



2. *Make stretching a habit*

Warm up properly. Static stretches to develop flexibility should be held for around 30 seconds. Getting another rower to help you stretch can help to improve your flexibility.

3. *Ensure good posture and core stability on a daily basis*

Practice good posture in your everyday activities. Coach yourself or others to attain and sustain good posture when rowing. Think about how you can develop core stability and integrate it into your training.

Strength & Conditioning

HIP EXTENSIONS AND HEALTHY HAMSTRINGS

The muscles that extend the hip, primarily the gluteus maximus and hamstring group, are often neglected, even in many functional training programs. Programs frequently place excessive emphasis on the knee extensors and neglect the hip extensors. Even more disturbing, the muscles that extend the hip, especially the hamstrings, are often mistakenly trained as knee flexors. In non functional strength programs, many muscle groups are still trained according to outdated understandings of their functions.

Although some anatomy texts describe the hamstring group as knee flexors, science now tells us that the hamstrings are powerful hip extensors and stabilizers of the knee. Hamstrings are only knee flexors in nonfunctional settings. In running jumping or skating, the function of the hamstrings and glutes is not to flex the knee but to extend the hip. As a result, lying or standing leg curls are generally a waste of time for athletes. Leg curl exercises the muscles in a pattern that is never used in sport. Training the muscles in non functional patterns may explain the frequent recurrence of hamstring strain in athletes who rehabilitate with exercises such as leg curls or isokinetics.

Hip Extension Exercises

There are two distinct types of hip extension movements; straight leg hip extensions and bent leg hip extensions. It is critical to use exercises from both categories to properly train the posterior chain muscles (glutes and hamstrings)...

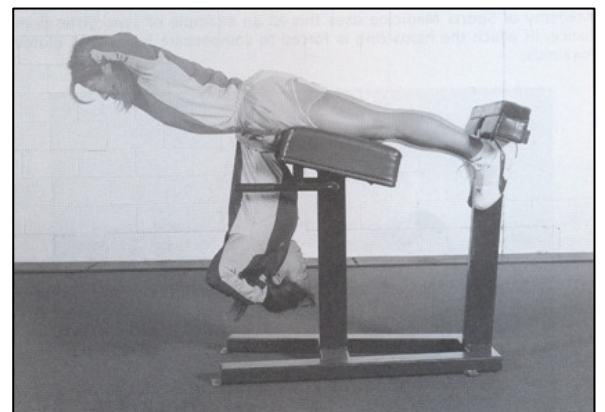
...It is important to note that knee flexion exercises such as squats and variations affect the glutes and hamstrings only as they relate to knee extensions and hip extensions in achieving a neutral standing position. To more fully involve the glutes and the hamstrings the movements must be centered on the hip and not the knee...

Level 1 Exercises

Hyperextensions

The hyperextension is possibly the worst named exercise in the functional training toolbox. Hyperextensions may be referred to as back extensions or back raises, but whatever the name, should be included in every beginning strength program. (*This exercise is also called Glut-Ham Raises which more accurately describes the exercise – Ed*). The hyperextension is a great basic exercise that teaches the athlete to use the glutes and hamstrings as hip extensors. Despite the name the emphasis should not be on hyperextending the lumbar spine but rather on using the glutes and hamstrings as hip extensors. The exercise has three major benefits.

1. It strengthens the posterior aspect of the trunk (spinal erectors); it works the low back extensors in primarily an isometric, rather than concentric or eccentric, fashion. The spinal erectors (low back muscles) are critical for maintaining proper position in all standing exercises.
2. It strengthens the glutes and hamstrings as hip extensors. Many people view the hyperextension as a



lower back exercise but it is actually an excellent exercise for the upper hamstrings and glutes.

3. It promotes flexibility in the low back and hamstrings. The actions of lowering and raising the weight of the torso stretch the hamstring group.

Level 2 Exercises

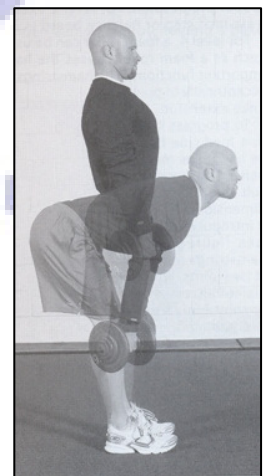
Modified Straight Leg Deadlift

The modified Straight Leg Deadlift (SLDL) ranks with the squat among frequently maligned, misunderstood and poorly executed lifts. The squat and deadlift and their variations are often called unsafe and dangerous. In truth, these lifts are extremely safe and beneficial when performed correctly with an appropriate load. However the squat and the SLDL can be dangerous when performed improperly or with too heavy a weight. The modified SLDL is performed with the legs slightly bent and the back arched. The SLDL, like the hyperextension is an isometric exercise for the spinal erectors (lower back muscles) and a concentric exercise for the hamstrings and glutes. It works the lower back musculature similarly to the squat.

Please note that this is an extremely difficult lift to teach and should be learned with a dowel or weight bar prior to loading.

Technique Points

1. For dumbbell SLDLs, the dumbbells are held with the palms in towards the thighs (neutral grip), and the hands should move down the outside of the thigh to the shin.
2. For a straight bar use a clean grip. Arms are straight. Wrists are curled under to encourage elbow extension.
3. Feet should be approximately hip-width apart. Knees are slightly bent.
4. Keep the back arched, the shoulder blades retracted and the chest up.
5. While maintaining your back position, slide the bar down your thighs until you reach the end of your hamstring range of motion.



The keys to the SLDL are bending from the hip and pushing the butt back while maintaining an arched back. Concentrate on pushing the hips and butt back, not on leaning forward. Athletes should start with the weight on the balls of the feet and, as they descend, shift their weight to the heels by pushing the butt back. Maintaining back position is important. Athletes must maintain at least a flat back. If they begin to flex the spine, they have reached the end of the active range of motion of the hamstrings. Remember that this is an isometric exercise for the spinal erectors and a concentric exercise for the glutes and hamstrings. Movement should come from the hip, not from the lumbar spine.

Perform for multiple sets of 5-12 depending on the level of training. Generally no fewer than 5 reps should be done, as a precaution against back injury (due to high loads)

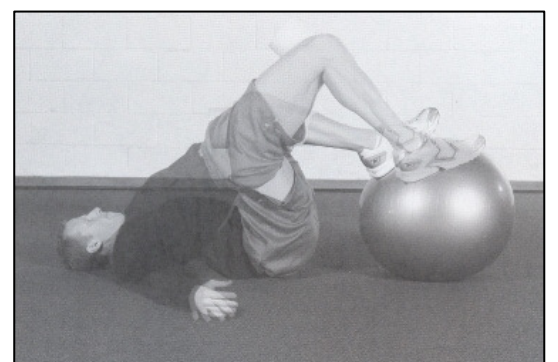
Level 3 Exercises

Two-Leg Stability Ball Hip Extension

A 65cm stability ball is used. The stability ball hip extension uses the hamstrings and glutes as hip extensors. It is extremely important that the movement comes from the hip and not from the lumbar spine.

Technique Points

1. Place the soles of the feet on the stability ball with hips and knees flexed to 90 degrees.
2. Place the arms at the sides.
3. Press the feet down onto the ball with the glutes and



hamstrings

4. Raise the hips up until there is a straight line from the knees to the shoulders.
5. Extend the hips, not the lumbar spine. Attempt to draw in the abdominals to stabilize the back.
6. Think hip extension, not lumbar extension.

Selections

HOW TO RUN SEAT RACING

Pre-Race Planning

1. The coach, coxswains and rowers should meet beforehand to discuss the specific logistical details including length of warm-up, where the boats and launches will meet on the water, and when seat racing will commence.
2. The coach should make a chart for the meeting showing the directions the races will be run, the lanes for each shell, the warm-up and rest times, and other matters that may influence readiness. Planned switches should not be shown on the chart.
3. In the planning of these races, allow some time for switched athletes in the boat to become used to a different seat, and allow them to change their foot stretchers as they desire. If taping the lock is allowed, give the athlete a chance to readjust to the pitch. These changes can be done very quickly.
4. The coach must not reveal to anyone how many races are planned as weather, accidents, close races and a myriad other factors can influence how many matches are needed to make seating decisions. Tie races must be rerun with the rowers in the same seats. Coach/Coxswain Preparedness for the Seat racing
5. Coxswains should carry a bag containing an adjustable wrench, 10mm wrench, black electrical tape for the boat, and/or pitching and a small roll of white athletic tape for hand, calf or heel blisters. Coxswains should be provided with weights so that all coxswains are the same weight.
6. Coaches should carry water in the launch boat, and offer it to all rowers at the same time. Bathroom stops should only be allowed at pre-arranged times, preferably when the seat racing is completed.
7. Coaches should take a standard sized seat, spare lock, spare set of 12-13 size shoes, tools, a skeg for 8+ or 4+, depending on race boats, and a tool box with extra pins.

Seat Racing Protocol

8. No athlete who has recently received a long rest period that others have not had should be allowed to seat-race in that session.
9. Seat Racing distances should not exceed five minutes which is considered a long enough period to determine strength, rhythm, blend and endurance.
10. Speed coaches/stroke coaches should be either used by all boats, or by none. Coxswains should be allowed to use cox-box set-ups as they do in regattas.
11. Accidentally broken equipment should nullify that race only. After replacing broken parts, racing should re-commence.
12. Coaches should not reveal to the rowers how many races are planned.
13. A "fair witness" should be riding in the launch to record exact distances of each race in the log book (i.e.- start-variances and margins).
14. Starts are three to build with margins on fourth catch are noted. Viable stroke rates are 31 to 32.5. Crews are given one free warning for false starts. Subsequent violations result in a one seat penalty. (Later in the season rates of 33-34 are more useful.)
15. After each piece, crews should paddle one full minute before stopping. Changes are then made. Row about one minute after changing. Major adjustments are made on the dock. Minor items can be changed on the water or by launch assistance. Paddle another four minutes after making the adjustments.
16. Some coaches want coxswains not to talk during the seat race. That is a choice to make beforehand. Youthful oarsmen generally prefer coxswains who can inspire and fire up. (Keep in mind a special seat race is always going on between coxswains.) There are many views on this point, but I prefer real race conditions which include a high level of enthusiasm and noise - traits found in all good regatta races.

17. Coaches will do well not to tip their hands by always racing #3s or #2s, or leaving the strokes until last. Athletes will pick-up on such habits and perhaps miss their own peak performance. Such coaching, if repeated, can cause weaker athletes who doubt they can produce all the time to save themselves for later races.
18. Close races should be re-raced. My definition of a close race is less than 1/2 deck in rough water, or strong headwinds.
19. Tie-races are always re-run with a "lid". A "lid" means the athletes return to their seats of the prior race and re-race.
20. Coaches must never "judge" seat racing results. If the athletes expected to win do not, so be it. Coaches who commit to seat racing cannot, under any circumstances, question the results. Second-guessing is a betrayal of the athletes and will destroy their morale as well as their confidence in the coach.
21. Integrity of seat racing is assumed, observed, expected, recorded and demanded by all - peers, coaches, and the sport. Athletes do not forget the "blade with the fade" (explained below). The coach must also be aware of this should it happen and react properly albeit respectfully.
22. "Blade with the fade" is referring to an athlete who, once realizes he or she is not being seat raced, will ease off in power. This issue must be stated openly to the athletes at least once each year so that every athlete is clear on the importance and integrity of the seat racing.
23. Athletes may seek redress if done under coach-control and in a timely manner. (I encourage challenge races.)

Post Seat Racing

24. After the races are over the "fair witness" (launch observer) should report findings to the coaches. Then coaches, coxswains, and perhaps the captain or respected veteran athletes will help record the results. All questions should calmly be answered and explained and verdicts validated.
25. After each session coxswains must meet with the coach at the dock to discuss margins and fairness. If a question cannot be solved, the strokes and certain other athletes should be called upon for their views as to fairness.
26. Seat racing results should be posted in specific team room only by name and margin. Do not post in a general area, as the results are privy only to those who participated.

Checklist for Coaches

A week prior to the first seat race, assign a coxswain to assist your boatman or rigging coach in checking out the seat-race shells. Here are the key things to pass or fail:

- a. Check oar pitch. Because all oars change their pitch over time, a negative 1° oar or scull that replaces a +1° blade can upset a boat if not corrected. The best idea is to measure all oars and use only 0° degree blades. The next best option is to put three wraps of PVC tape tightly around the top of the face of the lock to shallow it, or on the bottom to deepen it.
- b. Seats have no groves or burned out bearings to destroy the rhythm or flow.
- c. All skegs are straight, not just close to okay.
- d. No bent riggers. Pins are at zero degrees.
- e. No cracked back braces or goose necks.
- f. All blades at zero degrees.
- g. All inboards pre-set and tight.
- h. Steering must be attached in the same fashion (reflex direction) from boat to boat.
- i. Yoke turns the rudder directly and does not have slippage.
- j. All coxbox types and speakers work clearly and are not muffled.
- k. All pins are tight to the main braces.

Many excellent coaches over time have created oarsmen swapping plans for their seat races. Call a few of them and ask for tips of their own.

SPORTS SCIENCE

GIVING YOUR WARM UP A NEEDED TUNE UP

Have you ever noticed that part way through a workout your energy levels seem to pick up or that during a head race you catch your second wind about halfway through? If so you may not be warming up sufficiently. Pre-training and pre-competition warm ups are now the norm rather than the exception in most sports. Most coaches and athletes approach the warm up as means of preventing injury. However, there is little to no research that indicates that warm-up plays a major role in injury prevention. The warm up does however, have the ability to improve or hinder performance depending on how it is done. A good warm up will normally take 30-40minutes, including the on water and off water portions.

A Warm up has three purposes. First it improves blood flow to the heart muscle and helps prevent abnormal cardiac rhythms and heart attack. While this may not be a major concern for younger athletes, master athletes, people in learn to row or corporate challenge program, which involve less active, older individuals can benefit. Second, as the name implies, a warm up increases muscle temperature. Increased muscle temperature improves oxygen uptake, decreases lactic acid production, increases speed of muscle contraction, and increases the nervous system activity. It is through these changes that performance is improved. Third, a warm up provides the ideal time for pre-competition psychological preparation. Race plan can be rehearsed and technical points can be mentally reviewed. A well designed warm up has the following components.

Stretching

Often warm up stretches are confused with stretching to increase flexibility. The stretching during a warm up is designed to help you reach your existing level of flexibility. The stretching also activates the stretch receptors in the joints and muscles. This may help you row technically better. Stretching during warm ups will normally involve dynamic stretches, meaning that rather than holding a stretch for a period of time you move through your full range of motion and immediately back out. An example would be doing several full squats to stretch out the quads prior to getting into the boats.

Light Row

This, the first of two light rows, is designed to increase body temperature and provide the performance benefits listed above. This is a good time to mentally rehearse the race and think about the strategy you will use for a variety of scenarios. This portion of the warm up should last for 15 to 20 minutes. If it isn't possible to be on the water this long prior to a race, an erg or run can be used to raise temperature instead. Keeping the workout intensity low during this phase is very important. You don't want to create fatigue during the warm up so keep your pace about 15 seconds per 500m below your race pace for 1000 and 2000m races and 12seconds per 500m below had race pace.

Hard Strokes

Doing hard strokes or short sprints helps to increase muscle temperature, improve lactic acid removal and give the crew the feeling of speed and power going into the start. The sprint period or hard strokes should not be done for more than 15 seconds at a time with at least 45seconds between sprints. Longer periods may result in lactic acid accumulation that could slow race performance. The total time spent doing hard strokes should be about 5 minutes.

Light Row

Following the hard strokes, 5 to 10 minutes of light paddling will help remove any lactic acid that has built-up and prevent fatigue from setting in early in the race. This is the part of the warm up program most easily forgotten but may be the most important for race performance. Use similar splits to those used in the first light session row. Try to time this portion of the warm up so that you finish near the start line just before the start of your race. You don't want to sit for more than about 10minutes between the end of your workout and the start of your race.

Individual differences exist between athletes as to how long they need to warm up but as a general rule you are better to err on the long side and not cut the warm up short. Environmental conditions like temperature and humidity also play a role in warm up duration. On a cool fall or spring day warm up may have to be substantially longer than on a hot humid summer day. Combine the recommendations made here with your own judgment to make sure that you get the most out of your pre race preparation.

Skills & Drills

FAULT CORRECTION EXERCISES — FOR THE ENTRY OF THE SPOON AND PICKUP.

Catch slap

In a normal stroke after arriving at the catch position lift hands up to put blades in but keep the blades feathered so that they “slap” the water then square and put them in the water.

Purpose: To assist in learning to raise the hands to drop blades into water; to assist timing of the catch in a crew boat; to stop the legs coming on before the catch, i.e. to separate the catch from the leg drive.

Double catches

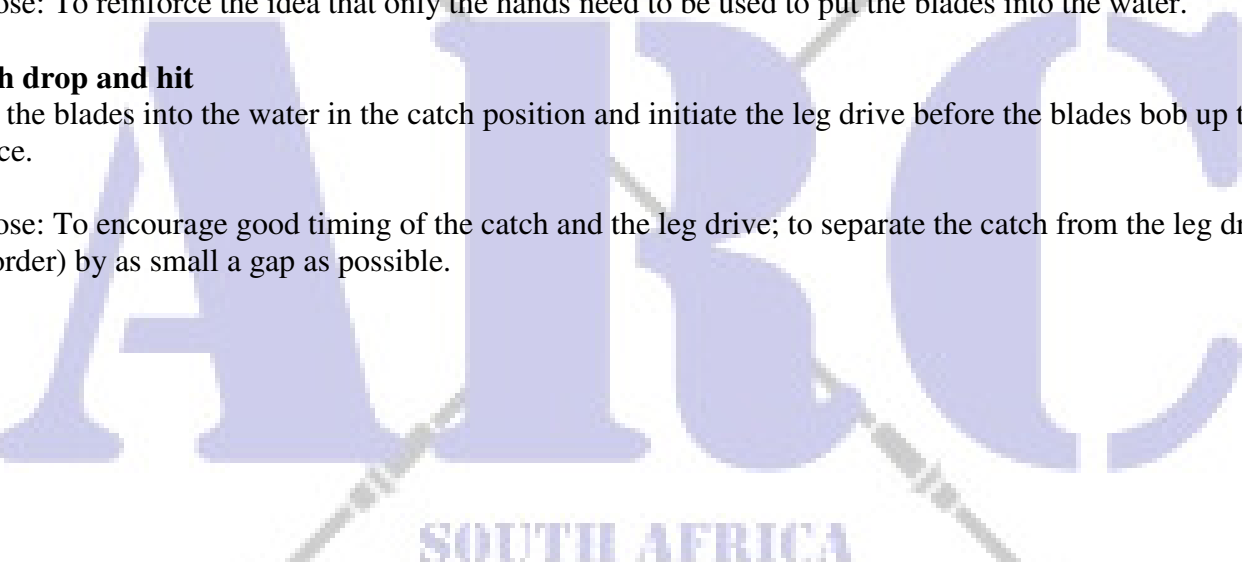
Place blades in at catch then take out and place in again.

Purpose: To reinforce the idea that only the hands need to be used to put the blades into the water.

Catch drop and hit

Drop the blades into the water in the catch position and initiate the leg drive before the blades bob up to the surface.

Purpose: To encourage good timing of the catch and the leg drive; to separate the catch from the leg drive (in that order) by as small a gap as possible.



Coaching Courses

Month	Dates	Holidays	Holidays	Venue	Course
JUNE	29th June	Govt Schools	Pvt Schools	Johannesburg	Prior learning assessments
JULY	5th/6th & 7th July	Govt Schools		Johannesburg	So This Is Rowing - INTRO
AUGUST	6th August		Pvt Schools	Pretoria	Prior learning assessments
	8th /9th/10th August			Cape Town	LEVEL ONE COACHES
	15th August		Pvt Schools	Johannesburg	Prior learning assessments
	16th / 17th / 18th August			Johannesburg	So This Is Rowing - INTRO
	22nd / 23rd / 24th August		Pvt Schools	Johannesburg	So This Is Rowing - INTRO
SEPTEMBER	1st/2nd/3rd September		Pvt Schools	Johannesburg	LEVEL ONE COACHES
	28th September	Govt Schools		East London	Prior learning assessments
	29th/30th Sept & 1st October			East London	LEVEL ONE COACHES
OCTOBER	20th October		Pvt Schools	Cape Town	Prior learning assessments
	21st/22nd/23rd October			Pretoria	LEVEL ONE COACHES
NOVEMBER	3rd November			Pietermaritzburg	Prior learning assessments
	4th/5th / 6th November			Pietermaritzburg	So This Is Rowing - INTRO
ALTERNATIVE	24th November	To the above	dates	Pietermaritzburg	Prior learning assessments
	25th/26th/27th November			Pietermaritzburg	So This Is Rowing - INTRO
DECEMBER	15th December	Govt Schools	Pvt Schools	Durban	Prior learning assessments
	16th/17th/18th December			Durban	LEVEL ONE COACHES
JANUARY	4th January	Govt Schools	Pvt Schools	Johannesburg	Prior learning assessments
	5th/6th/7th January			Johannesburg	LEVEL ONE COACHES



Association of Rowing Coaches

South Africa

Membership Application Form

First Name: _____

Surname: _____

Gender: _____

Nationality: _____

ID Number (RSA): _____

DoB: _____

Postal Address: _____

Cell Phone: _____

Email: _____

Club/Institution: _____

Volunteer /Half paid/Full Paid: _____

Coaching Qualification Level: _____

Representation: International/National/Provincial: _____

This form must be completed and returned by fax to Jamie Croly (National Secretary) at 011 781 2987 or by Email at lcroly@stithian.com. You will be notified by email of the receipt and acceptance of the membership application.

Membership fee of R100.00 per year will be invoiced after membership has been accepted and processed.