

# STROKEARCS

The Newsletter of the Association of Rowing Coaches, South Africa

## No 1, March 2006

This is the first newsletter of the Association of Rowing Coaches. This organization was formed at a meeting held at Selborne College during the Buffalo Regatta in February 2006. I hope to provide as much information as possible to the coaches through a monthly newsletter which will include articles about all relevant areas of coaching and coaching activities in South Africa.

These articles will be sourced from the internet, other countries rowing magazines and newsletters, rowing books, as well as articles written by our own coaches here in South Africa. I would appreciate it if people can make me aware of any interesting stuff they may find in their net surfing or reading that I may include in future newsletters.

I would like to make the following some of the regulars sections in the newsletters:

*Main Articles* – themed each month around some or other aspect of coaching – Technique, Physiology, Biomechanics, Strength & Conditioning, Sports Medicine, Psychology, Motor Learning, Pedagogy, Nutrition etc.

*Q & A*: Questions asked by readers and answered by top National or Club coaches

*Skills & Drills*: Exercises to improve technique

---

This first edition contains the following:

<b>TRAINING METHODOLOGY - The Basis for Training</b> .....	2
<i>By Tudor Bompa</i> <i>From the introductory chapter to Periodization: Theory &amp; Methodology of Training. Published by Human Kinetics 1999.</i>	
<b>BIOMECHANICS - The link between core stability, strength, endurance, flexibility and posture</b> .....	2
<i>From Rowing &amp; Regatta Magazine, Jan 2006, pp 26-27</i>	
<b>SELECTIONS - Go Small Before You Go Big! - Why the Canadian National Rowing Team trains and selects their crews in small boats</b> .....	4
<i>by Dr. Volker NOLTE</i>	
<b>TECHNIQUE - Think about your drills</b> .....	6
<i>From Coach Boat View – Canadian Coaching Newsletter, Fall 2001.</i> <i>By Carolyn Trono, Coach and Athlete Development Consultant pp 18</i>	
<b>FLEXIBILITY - Stretches for the Hip &amp; Knee Extensors &amp; Hip Flexors</b> .....	7
<b>Dates for RowSA Coaching Courses</b> .....	8
<b>Membership Application Form</b> .....	9

# TRAINING METHODOLOGY

## THE BASIS FOR TRAINING

Most scientific knowledge, whether from experience or research aims to understand and improve the effects of exercise on the body. Exercise is now the focus of sports science. Research from several sciences enriches the theory and methodology of training, which has become a science of its own. The athlete is the subject of the science of training. The athlete presents a vast source of information for the coach and sport scientist.

During training, the athlete reacts to various stimuli, some of which may be predicted more certainly than others. Physiology, biochemical, psychological, social and methodological information is collected from the training process. All this diverse information comes from the athlete and is produced by the training process. The coach who builds the training process, may not always be in a position to evaluate it. However he must evaluate all the feedback from the training process to understand the athletes reactivity to the quality of training and properly plan future programs. In light of this, it becomes clear that coaches require scientific assistance to ensure that they base their programs on objective evaluations.

Theory and methodology of training is a vast area. Closely observing the information available from each science will make coaches more proficient in their training endeavors. The principles of training are the foundation of this complex process. Knowing the training factors will clarify the role each factor plays in training, according to the characteristic of the sport or event.

## BIOMECHANICS

### THE LINK BETWEEN CORE STABILITY, STRENGTH, ENDURANCE, FLEXIBILITY AND POSTURE

If you took time to sketch a good body-position at the finish of a rowing or sculling stroke it is likely that it will have a perfectly straight back, and can pivot from the hips. Yet rowers in real life are more complicated than this; they have a pelvis that tilts, and a spine that bends!

Whether rowing or coaching, you need to be aware of the movements of the pelvis and spine, particularly the lower back (*lumbar spine*). The degree of bend and development of bend at the lower back vs the pivot of the hips is known as the *lumbo-pelvic rhythm*.

When looking out for rowing technique, it can help to think of rowers as being like the slightly more complex stick man pictured;

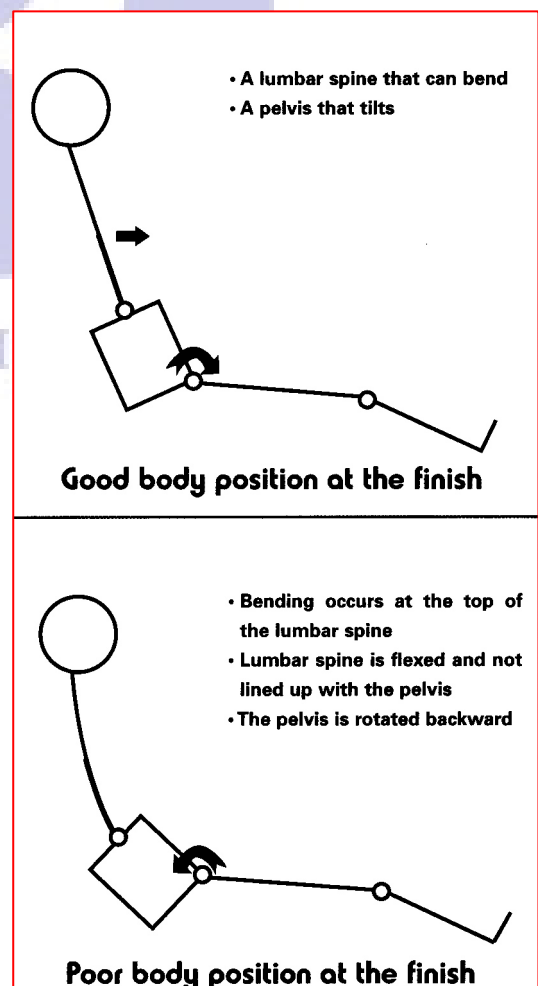
#### ***Good body position at the finish***

The back is straight and in a strong position. The pelvis and lumbar spine are lined up with each other. There is no slumping.

#### ***Poor body position at the finish***

In this example, the rower is slumped at the finish. Their pelvis is rotated backwards and is not in line with their lumbar spine. They will be sitting on the fleshy part of their bottom. They are also bending (flexing) their lumbar spine.

*Look out for movement in a rower's lumbar spine and pelvis; is their pelvis slumped? Is their lumbar spine flexed? Does this happen as they get more tired?*



### ***Rowers have muscles!***

Unlike stick men, rowers have muscles. They can be big or small, active or inactive, strong or weak, have high or low endurance, be involved in moving or in stabilizing, and be stronger or weaker than opposing muscles. That's a lot of complexity! When writing a training program coaches often focus on developing muscles strength and endurance rather than considering other ways to training muscles.

For example you need to train your core trunk muscles to be active and to develop their strength and endurance. This involves training both the deep stabilizing muscles and the other abdominal muscles; to better balance your trunk strength and endurance with your back strength and endurance.

Muscular imbalance and weakness affect flexibility, rowing posture and technique. Good examples of this are the hamstring muscles and hip flexors. If rowers neglect to develop the muscles that stabilize the pelvis, the hamstrings and hip flexors will take up the role of stabilizers and be more active which over time, can lead to them shortening. Many rowers have short hamstrings and hip flexors. Freeing these muscles from overwork (by activating and training the stabilizing muscles) means they can stretch and lengthen, which will allow the postures required for good rowing technique to be achieved and maintained. You must train stability, strength and endurance to allow the muscles to be stretched.

### ***What do the hamstrings do?***

The hamstrings shorten to extend the thigh and flex the knee, and help to extend the hips so the opposite movements to these can be used as stretches.

### ***What will stretch hamstrings?***

Develop core stability, strength and endurance first!  
The hamstrings can be lengthened and stretched by combinations of;

- Pivoting forwards from the hips (*trunk flexion*)
- Raising the knee (*hip flexion*)
- Extending the leg at the knee (*leg extension*)

### **TOP TIPS**

What to Do in Practice...

#### **1. Learn how to activate the appropriate muscles**

Rowers have relatively weak trunk flexors in comparison to their back extensor muscles. Make sure that you develop an ability to activate the deep stabilizing muscles of the spine (core stability) and trunk muscles (flexors and extensors) and then develop their strength and endurance.

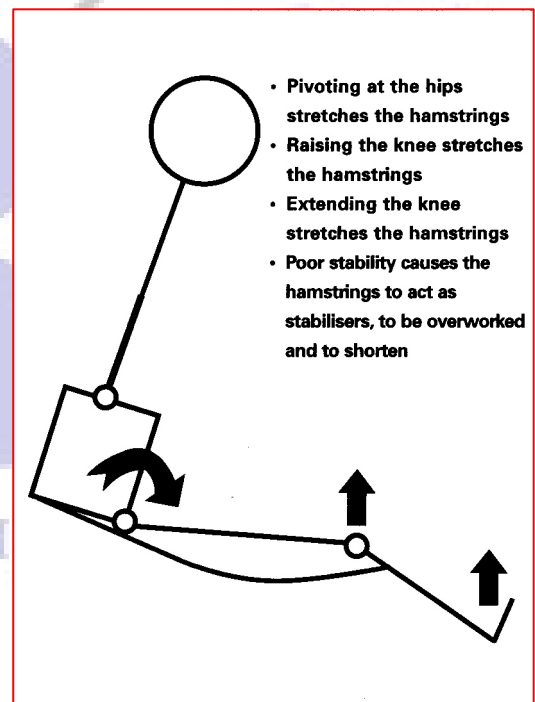
#### **2. Look out for the lumbar spine**

If you are a coach, think of rowers as being more than complicated stick figures (pictured); observe the amount of pelvic tilt and any bend at their lumbar spine, and note when this occurs in the recovery.

If you are a rower get your coach to video you and to look at the body movement that you obtain; is it pivot from the hips, or are you compensating and bending from the lumbar spine or reaching from the shoulders?

#### **3. Monitor the effects of fatigue!**

Rowers might start off with good stickman-esque posture in an outing, but poor core stability, trunk strength and/or endurance may mean that their body positions and sequencing degrades.



Capture some video early in the outing and some towards the end; are there changes in the postures? For how long can the posture be maintained?

With fatigue and at higher rates, rowers tend to tilt their pelvis forward less coming to the catch, and increase the bend at their lower back to compensate, making the spine work through a larger range of motion; look out for changes throughout and outing.

## **SELECTIONS**

### **GO SMALL BEFORE YOU GO BIG! - WHY THE CANADIAN NATIONAL ROWING TEAM TRAINS AND SELECTS THEIR CREWS IN SMALL BOATS**

Considering the resources of the Canadian National Rowing Team (total number of rowers and clubs in Canada, available finances etc.) we certainly have for the last decade the most efficient national team in the world. It even succeeded several times to be the very best team in the world, and consistently produced medals at Olympic Games and World Championships.

Obviously, the success is based on outstanding athletes and a great National team system. One important part of this system is the focus on SMALL BOAT training and racing. We believe, and the experience supports this belief strongly, that the majority of our training should be done in small boats, pairs and singles. Although pairs are the preferred training boats for sweep rowers, the single is considered to be the true basic of the small boat program. Since small boat training has such an outstanding position in our National Team Program, it is worth while to study it in some detail.

#### **WHAT DOES SMALL BOAT TRAINING OFFER?**

The most persuasive answer to this question is: It is the ONLY way to make the Canadian National Team! The whole selection procedure is based on small boats. The vast majority of the training in the National Team training centres and camps is done in small boats and the selection races are held in singles and pairs (Speed Order Regatta or, how it is called in the last few years, Training Centre Trials and seat racing). The outstanding positive experience over the last years shows that this is the best method for training and selection.

It is certainly the FAIREST way to select, because the result of the selection is depending on one's individual performance. You cannot hide in a single or a pair. The results of small boat races give a clear ranking of the athletes, and each athlete has the best chance to show their own capability. This system also offers each athlete more options in selection. In the same race for example, you could try out for the eight, the four and the pair. Therefore, it is imperative to train in small boats, because you should prepare in the boat in which you will be tested.

Small boat training offers also generally the BEST PREPARATION for all kinds of racing. It is PHYSIOLOGICALLY the best training method for the individual athlete. It is known that each person develops the best when training at an individual intensity level. The better rowers can go at a faster speed, so they can improve, while the development athletes can row at their speed without experiencing overloading. This would be impossible for example in an eight, where everyone has to row at the same speed.

Small boat training is also the BEST TECHNIQUE TRAINING. It offers the best way to learn balancing, one of the major challenges in rowing technique. Furthermore, singles and pairs provide the highest level of technical difficulty and react most sensible to the forces applied and the movements of the rowers. Any mistake done becomes immediately visible, can be identified and points to the rower who is the cause of it. Research also shows that small boats teach technique the best, because of the direct feedback for the rowers. Sometimes, it does not even require the input of a coach that an athlete knows what has to be corrected. Small boat training improves the sensitivity of the rowers and often, a proper technique can be found simply through trial and error. A pair also shows very clearly the compatibility of two rowers. This knowledge is important for building larger crews.

In addition, small boat training provides many PSYCHOLOGICAL ADVANTAGES. Rowers learn to be only dependent on their own performance. Consequently, they learn confidence in their own abilities. The individual performance is for every single stroke on the line. You simply cannot hide, but you learn to perform. It is much tougher to train and perform in a small boat, where your own performance has such a large influence and no coxswain is there to keep the spirit up. Training in small boats is also much more competitive. Instead of going out on the water in an eight as a singular boat, you could have four pairs competing with each other. The variation of training sessions improves too, because there are more training exercises or ways to organize workouts through the higher number of boats.

Finally, small boat rowing teaches WATERMANSHIP. The rowers learn much more about the element on which they row, and the environment they train. There is no coxswain who looks after the steering. Therefore, the rowers themselves have to take care for their course and the direction they choose. They feel the water, the wind, the waves and the temperatures more directly, and learn to act much more cautiously. With the experience of small boat rowing, the rowers develop more sensitivity how and where they move on the water. As a simple example, it may not be very dangerous to leave the gate of the oarlock undone in an eight, but in a pair it may be life threatening.

But there are also reasons that go beyond racing. Rowers who were taught to row in small boats will most likely enjoy rowing longer in their life than others. They are capable of rowing all boat classes, in different seats, and will not always be depending on a crew. Especially later on in life when it becomes increasingly difficult to get compatible crews together for training and recreation, a rower who is able to scull will find more often the opportunity to get on the water. Small boat rowers will have more chances to continue life long rowing. They may even choose to purchase their own single to become totally independent from others.

#### AND THERE ARE NO DOWNSIDES OF SMALL BOAT ROWING?

Sure there are! This is why we still have to work on getting even more athletes and clubs hooked on to the small boat philosophy. It is obviously easier to control one eight instead of four pairs, especially since there is a coxswain involved, so to speak in an assistant coach position. In some clubs, there may be even some safety concerns, particularly in cold weather conditions. And finally, you need the boats for this kind of training. If you look into a 'normal' Canadian rowing club, the emphasis lies on the eights. That is the tradition. Therefore, special efforts have to be made to put more small boats in our boathouses. After the small boats are purchased, you will find that you get a lot of good use for them. Rowers will enjoy training in them, and the benefits will be obvious to everybody. Everybody will learn very quickly to handle these boats and safety will be learned from a new angle. Therefore, the disadvantages will actually turn into positive experiences over time.

#### DREAMS

Martin Luther King once said "I have a dream..." when he had a vision of a positive change in society. Why should not we have a dream, too, that with a little bit of understanding what is good for our athletes, and how we should develop our rowing program, small boat training will be used more widely. The advantages of small boat training are so overwhelming and clear that everybody should be excited to get into this kind of training. It is proven so often all over the world, but especially within our highly successful Canadian Team that there should not be any doubt that this is the way to go. The new generation of Canadian rowers will agree and be thankful.

**Quote: Dr. Volker Nolte (now 45)**

**Why do I love rowing?**

***I was fascinated by the elegance and the technique involved when I discovered the sport of rowing. This was when I was 13 years old. I still love the sport. I love to go out in my single or with my friends in an eight. I love the feeling of working with my whole body. I love the sense of speed in the water, the noises in the boat, and striving for the perfect stroke. And I love the challenge to teach young athletes these experiences...***

## Skills & Drills

### THINK ABOUT YOUR DRILLS

Drills play an important role in helping sport participants learn motor skills. Whether the participant is a beginner or an elite athlete, coaches and instructors are notorious for inventing creative drills to help athletes perfect a motor skill. Normally, coaches and instructors have a good reason for asking rowers to do a drill. Sometimes a drill can help the rower isolate and work on a certain movement pattern. Sometimes, a drill is used to teach skills to a novice rower. And sometimes, the drill is used to help an athlete correct incorrect movement patterns.

Here are a few considerations about drilling that coaches and instructors should be aware of prior to giving athletes drills to do.

#### **1** UNDERSTAND WHY YOU ARE ASKING PARTICIPANTS TO DO A DRILL.

You should be able to communicate this to the participants. This is important so that the rower can focus their attention on the correct part of the stroke and the movement pattern that is being refined.

#### **2** RECOGNIZE THE DIFFERENT STAGES OF LEARNING AND THESE STAGES REQUIRE DIFFERENT ENVIRONMENTS FOR LEARNING.

When someone is learning a new skill or changing a motor pattern, they are considered to be in the “early” stage (cognitive stage). At this stage, the participant is concentrating so hard on mastering the skill that any type of distractions (wind, noise, rough water) can interfere with this process. If the boat is rocking and unstable, the rower will have difficulty focusing on the skill that is being taught. Another important consideration at this stage is that the dominant sensory modality is visual. The participant needs to be able to get a visual sense of what is required for the skill. Therefore, demonstrations are helpful and the participant should be encouraged to watch his/her oar when doing drills. As a participant gets more experience, he/she will appreciate more auditory and kinesthetic cues.

#### **3** ADAPT THE DRILLS TO THE SKILL/EXPERIENCE LEVEL OF PARTICIPANTS.

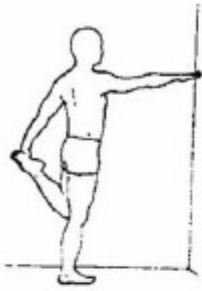
The Canadian National Rowing Team may do a drill that is suitable for them and helps these athletes to refine skills. However, this doesn't mean that all athletes at all levels should do it. For inexperienced rowers, it is important to minimize the variables that the rower has to contend with when doing a drill. Here is an example. The pause drill is used very frequently. I have seen National team rowers do this drill with a double pause every second stroke. For an inexperienced crew, I would suggest having half of the crew, not row and concentrate on holding the boat balanced. The rest of the group would row and do the drill, with one pause every stroke. In this way, the rowers do not have to worry about balance. They only have to pause once and don't have to worry about counting every second stroke.

#### **4** TRY TO IDENTIFY THE PREFERRED SENSORY MODALITY OF THE PARTICIPANTS.

Researchers suggest that everyone has a preferred sensory modality - auditory, visual or kinesthetic. By using a variety of modalities in the coaching repertoire, the coach is likely to provide cues for all three modalities. For example, a visual learner learns best by seeing demonstrations, looking at videos and watching his/her oar. A kinesthetic learner learns best by doing. Sometimes this means that the coach must adjust positions to help the rower get the “feeling” of the correct movement pattern. An auditory learner does quite well with verbal cues and feedback. Sometimes listening for the correct sound helps such as the “plop” sound when the blade drops into the water properly.

## Flexibility

### Stretches for the Hip & Knee Extensors & Hip Flexors



Stand holding a wall/pole for balance  
Lift one leg up behind and grasp the ankle  
Pull the foot towards the buttocks to stretch the quads



Kneel with one knee on the ground and the other foot out in front to balance  
Pull the rear foot towards the buttocks to stretch the quads



Kneel on the ground with one foot extended for balance  
Push the hips forward, keeping the body upright to stretch the hip flexors



Sit on the ground with one leg extended  
and the opposite foot brought into the knee  
Lean forward from the hips (dont bend at the waist)  
to stretch the hamstrings



Stand with one foot up on an object  
Lean forward from the hips to stretch the hamstring



Lie on the floor with the knees bent  
Extend one leg out and pull behind the knee  
keeping the leg straight to stretch the hamstring



## 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](mailto: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.**