BRITISH CANOEING
AWARDING BODY

British Canoeing Awarding Body Racing Handbook

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Contents

This handbook is intended as an introduction to coaching racing in both Canoe and Kayak and in the disciplines of Racing and Marathon.
Depending on the Level of Coaching Award held, the coach, with this handbook, will be able to run single sessions either under the supervision of a more qualified coach or a series of up to six linked sessions for a group of paddlers.
The handbook will introduce and explain the basic techniques required by Racing Coaches. It will also be more specific in some areas than the generic course. There will be a chance to try them out in practical exercises. Hopefully by the end of this handbook you will start to gain the confidence to return to your club and put these skills to use. The Racing handbook seeks to support the continuing process of good coaching practice on the riverbank. It is envisaged that the coaches with this handbook will provide the coaching support for the early development of paddling "athletes" within a club environment. This will include paddlers in Divisions 9 – 5 for men and Division 9 - 6 for women.

The main aim of this handbook is to help paddlers to train and improve; winners are the paddlers who are able to produce a better performance than before. By helping athletes to train and improve the coach gives everyone the means and opportunity to "win".

The aim of the handbook is to help equip coaches to:

- Create excellent and enjoyable opportunities for their athletes to train, improve and race in safety.
- Highlight the pathways to success at every level of flat water competition to their athletes.
- Give primary consideration to the long term development of their athletes as individuals.

Remit

The remit for coaches at various levels is found within the appropriate Course Guide for that particular level of Coaching Award or on the BCAB website.

Safety

Bank or boat based coaches when working with competent or elite paddlers it is often appropriate for the coach to work on the premise that the paddler will take care of their own and each other's safety and the coach will concentrate on coaching. At the opposite end, coaches working with complete beginners and less experienced paddlers will be actively providing safety cover as well as coaching, unless they are fortunate enough to have the assistance of a competent paddler who can take over the safety cover role. Coaches will sometimes work from their boats and sometimes from the bank. In whatever manner the coach is working, there must be adequate provision of safety cover for those under the coach's control.

Coaches will be assessed in their safety and rescue skills as part of their generic assessment for those qualifications. Further work and practice should be done in terms of dealing with safety issues specific to the environment and craft that are being used by the racing coach.

Regardless of whether the coach is working from the bank or from a boat, there will be essential points that must be covered.

Positioning of the coach during a session is critical for many reasons

The best position is determined by one or all of these factors

- Observation - The best position from which to observe the session
- Feedback - The best position from which to provide feedback
- Safety - The best position from which to provide safety cover

If the ability of the students requires that safety cover be provided, then this must be the priority. A balance can be made to enable the other considerations be taken into account

Coaches must also be aware of their 'Duty of Care'. This is:

'The duty which rests upon an individual or organisation to ensure that all reasonable steps are taken to ensure the safety of any person involved in any activity for which that person or organisation is responsible'

Essential safety points - coaching from the bank

a. Are you following the recognised safety and operating procedures for your club/centre? Are you aware of Risk Assessments carried out?
b. Have group members, particularly those under 18 made you aware of any illnesses, injuries or allergies they have?
c. Do you have the ability to help rescue a paddler if necessary? Useful equipment may include a throw line - make sure you can use one!
d. Can you see all of the training area from your bank side location?
e. Is the wind, tide, current favourable to the group, can you deal with the conditions in the event of an incident?
f. Practice a rescue procedure with your group Make them aware of the dangers and possible outcomes.
g. Brief your paddlers on the clothing they need for training. For young people a letter home is a good idea.
h. Have an alternative land based session planned in case the water / weather conditions or other factors make the original session unsafe,
i. If you are in any doubt about safety, before or during a session cancel or adapt the session to make it safe.

Refer to the Risk Assessment appendices at the rear of the manual

Additional safety points - coaching from the boat

a. Make sure you are equipped to deal with situations both in terms of your own capabilities and any equipment you may need.
b. Do you have a means to summon assistance if required?

It is important to be safety conscious and to instil the importance of safety in your paddlers. You should be preparing them to be responsible and self reliant, especially given the nature of the events you are training them for.

Essential Safety Check List	
Boat	• Sound (deck, hull and other fittings), • Sufficient buoyancy fitted • Fittings correctly adjusted and tight • No sharp edges (such as worn cockpit)
Paddles	• Hand grips are smooth • There are no obvious cracks / weak points (gently flex the paddle to check) • Right size for the paddler
Buoyancy Aids	• Zips & straps fasten securely • Buoyancy is all intact & buoyant • Buoyancy aid fits the paddler
Spray Decks	• Releasing strap visible and reachable
Paddler	• Healthy • Injuries • Medical conditions • Appropriate session • Appropriate conditions

Paddling Technique

A high priority for coaching racing is establishing good paddling technique. Without good technique there is very little chance for a paddler to reach their full potential in the sport. There are four basic reasons for the importance placed upon technique:

1. Force Production
Good technique utilises more of the larger muscles in the body to produce the stroke. This then increases the maximum force that can be applied to the boat and potentially increase the speed.

2. Efficiency
Good technique allows efficient use of the muscles and allows more speed for a given effort OR the same speed for less effort.

3. Compatibility
Although canoeing is often perceived as a solo sport, canoe and kayak racing also involves crew boat paddling. To get the best out of any team boat the paddlers must be compatible.

4.Potential
Coaching good technique is the first stage in allowing paddlers to perform to their long term potential. It is the duty of any one involved in coaching to create the opportunity to allow paddlers to do so.

Variation in paddlers' ability and physique will ensure that there is also variation in the way paddlers combine the fundamental parts of the stroke. It is therefore important for the coach to understand the fundamentals of the stroke, where it fits and how it affects the stroke cycle to help each individual they coach develop technically to their full potential.

Coaching technique improvement
Paddling can seem very complex if the coach introduces many detailed technique issues at once, so it is recommended that:

- Coaches look at the primary technique factors first and coach these.
- Only having dealt with these do coaches move on to discuss detailed technique matters with their paddlers.

This approach will often solve many other smaller technique problems in passing, and will not overload the paddler with a wealth of new and difficult concepts.

The key elements to remember and understand are the Fundamentals and the Basic Principles of the Forward Paddling Stroke

Fundamentals:

Posture:

Essential for paddling in an efficient and effective way. Power is dependent on good posture.

Connectivity:

Relationship between the paddler and water connection between the body, boat and blade. Good connectivity increases performance.

Power Transfer:

Through the body as a result of good posture and connectivity. Concept of moving the boat past the blade is essential.

Feel:

Sensory feedback through the various points of contact the paddler has with the boat and paddle. It is an important part of the paddler's learning experience and progression.

Basic Principles

1. The blade is driven into the water well in front of the body.
2. The legs provide the drive to move the boat forward and to initiate the rotation of the body.
3. The boat is moved past the blade, using the water as a 'solid object on which to fix effort.
4. The extraction of the blade is started just after the knees come past the hand.
5. The whole stroke takes place in front of the body.

The Forward Paddling DVD is an excellent reference for this section

1. The Catch - The Blade Is Driven Into The Water

The CATCH is the basis of the whole stroke. Without a good catch, work on technique elsewhere will be peripheral.
The Paddler has to put force through the paddle shaft and onto the paddle. The paddle is driven into the water forwards and downwards. The paddle then supports the weight of the paddler as this force is generated. - (The ideal is that the boat is then sliding past this planted paddle with the body and legs pushing the boat forwards.)

2. Moving The Boat – The Boat Moves Past the Paddle

This part of the stroke is the sliding of the boat past the planted paddle. In the ideal stroke, the paddle is planted and 'locks' in the water and the boat moves past it. The paddle does not move back past the boat.
The top hand should move forward at the same speed as the top hand shoulder during this part of the stroke relative to the blade. The top hand should not change position relative to the shoulder during this phase of the stroke (while the blade is in the water)
The force applied is directly opposite to the direction of travel. The blade continues to support the weight of the paddler, stopping him from 'sitting down'. If the paddler is allowed to sit back on the seat with his full weight, the boat will slow.

3. Exit – Recovery and Air Work.

The extraction of the blade is started just after the knees come past the hand.

The paddle is withdrawn sideways from the water and not backwards, the shoulders and the elbow should be kept down during this phase.

4. SUMMARY

A good stroke is quite mechanical, the good paddler will make it look fluent, there is however the need for explosive power at the catch and then good transfers during the stroke to establish the fluidity in the stroke. This is achieved through good leg drive, rotation and connections through the body

Coaches and paddlers may vary in their interpretation of good technique, but will all have to deal with these basic mechanical aspects - a good catch, whole body movement, taking weight out of the boat onto the paddle.

Share your thoughts on technique. If you find a good way of putting a point over let everyone know! Every paddling session is a technique session - don't just go out and "do" technique once in a while. Encourage the paddlers to help each other, and discuss "improvement" not "faults". Do your paddlers come off the water asking, "How was my technique today?" Encourage them to want to know.

Equipment

Knowledge of the paddling equipment used for Sprint and Marathon Racing is essential for coaches. Properly maintained and prepared equipment will allow paddlers to train and race safely to the best of their ability.

Athletes often see equipment as their passport success. The coach however should remember that improvement gained by using the latest 'fastest' designs is normally fractionally small when compared with the gains made from improved paddle technique and conditioning. Initially most clubs will offer the use of club equipment to help aspiring paddlers get started. This section of the manual is included to remind coaches of their duty of care with regard to club equipment, to highlight coaching progressions and to give an overview of racing equipment.

Club Equipment

Time spent making sure fittings are adjusted correctly for each paddler at the beginning of the session is well spent when compared with the frustration of paddlers having to cope with ill prepared equipment. Paddlers learn best if they are confident and that means using a correctly adjusted stable boat. A progression of boats (of decreasing stability) is widely used to help a paddler master racing boats.

Kayak Progressions

Boat Type	Examples	Stability Rating
Very Stable (Touring Boats)	Bell Boats Poly Pippin / or other similar open cockpit touring boat Rapide	5/5
Stable (Fast Tourer)	Laance / Hobby Discovery Tercel Talisman Lightning (Suitable for Children only)	4/5
Stable K1	Raven Tor Lancer / Javelin Ranger / Rapier Chancer	3/5 - 2/5
Racing K1	Cleaver X Eagle/ Judge Midas Jaguar/Cleaver Cougar/Tiger	1/5
Modern Narrow K1	Alpha / Beta Teknik Sprinter	1.5/5

Canoe Progressions		
Boat Type	Examples	**Stability Rating**
Very Stable (Touring Boats)	Bell Boats Open/Touring Canoes, sitting or on two knees, progressing to high kneeling position	5/5 4/5
Stable (Fast Tourer)	(Doubles) Kirkes, Merryweather (Singles) Summersong, progressing to high kneeling position Pyranha Racer	5/5 4/5
Stable Racing Crew Boats	Old Specification C4's Cheetah, Omega C2's	1.5-3/5
Stable Racing C1's	Delta, Beta, Czar	1/5
Modern Narrow C1	Nelo, Plastex	0.5/5

Coaching Points: Boat Progressions

The responsibility for preparing equipment for paddling initially lies with the coach but as paddlers improve and gain experience, they should start to take on more of the responsibility. It should be noted that the duty of care, however, always remains with the coach.

Stability

In addition to the changing of the height of the paddling position, work can be done on stability with exercises designed to improve the core stability and the functional stability of the paddler. There are a number of exercises and links at the end of the booklet to assist the coach with the development of stability

SIZE OF EQUIPMENT

It is essential that equipment fits the paddler who is using it. Every piece of equipment used should be of the right dimensions so the paddler, particularly the younger paddler, has an enjoyable experience and is not struggling because the equipment given to them to use is unsuitable.

This extends to boats, paddles, buoyancy aids; everything that is used must be the right size for the paddler.

See appendix for suggested paddle sizes.

Boats:
Is the boat the right size, does the paddler look comfortable in it? Is the height of the cockpit right? Is the boat too much out of the water at the ends, or is the bow almost under water? Is the footrest the right distance from the seat? Is the seat the right height for the paddler's ability and stability?

Paddles
Is the length of the paddle right for the paddler?
Is the blade size suitable for the paddler? Is the paddle shaft diameter a comfortable one for the paddler?
Is the angle of the blade feather right?
Is the design of the blade the right one?

Buoyancy Aids
Does the paddler need to wear one?
Is the design appropriate to racing? Does the buoyancy aid allow the freedom to execute good technique?
Is it the right size, would it come over the head if there was immersion?
Has it been checked for compliance recently?

Spray Decks
Is one needed?
Does it have a release strap? Is a zipped or a non-zipped deck the most appropriate for the session?
Has the paddler undergone training in dealing with a capsize when a spray deck is worn?

Clothing
Is it suitable for the conditions? Does it allow the paddler to move freely without rubbing?
Is footwear needed for the session?

Fittings

The fittings in a boat must allow the paddler to sit or kneel comfortably. Without good fittings, or indeed without fittings at all, then good posture and therefore good technique will not be achieved either

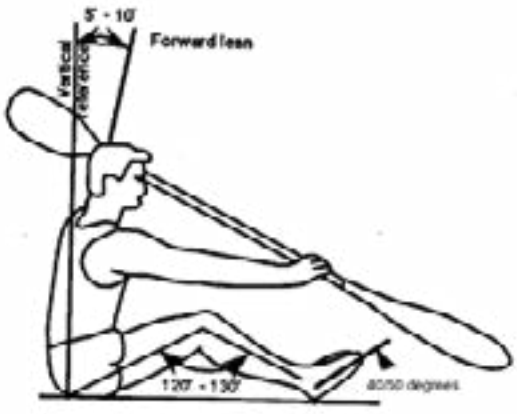
Seat/Knee block

The seat or knee block must be high enough to achieve a good strong paddling position without sacrificing stability. As the paddler progresses in ability, then the height of the seat or knee block can be raised to give an optimum paddling position. Kayak seats can come with adjustable seat heights and pitch as well as having different seat shapes to suit individuals. Canoe knee blocks are generally customised with the individual making their own. (Paddling a Racing Canoe Steve Train)

Foot Bar

The foot bar must be in a position that is comfortable for the paddler so they can sit on the seat with their feet on the foot bar and have the angle below the knee at about 120º to130º and the angle of the feet on the foot bar at 50º to 60º

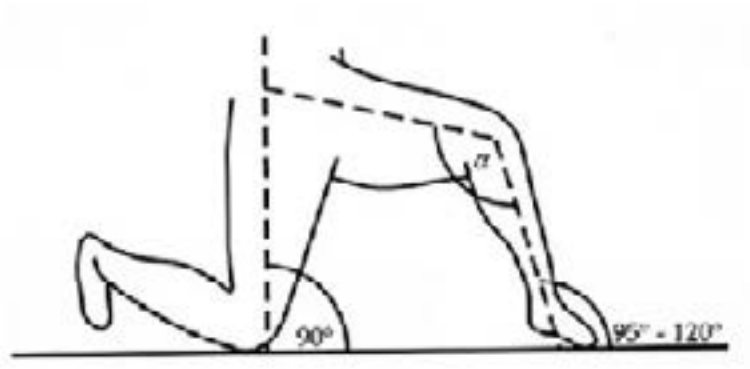
- Legs are at angle of 120 to 130 degrees
- Feet able to put firm pressure on footrest
- Back is straight
- Torso leans 5 to 10 degrees forward
- Centre of gravity of paddler is on or slightly in front of centre of gravity of kayak



The foot bar for a racing canoe should be fixed according to the lower leg length of the paddler, The lead foot should be far enough away that it is perpendicular to the bottom of the boat as the body comes forward for the catch. The angle at the knee (α) should not become less than 90° at this stage of the stroke either. Whilst learning it is better not to have a foot bar in a canoe as it can encourage poor technique.

Key elements of starting stance:

- Feet and kneeling knee form triangle base for balance.
- Weight transfers through kneeling knee.
- Keep a light front foot.
- Slight lean forward, never sit back.



For more information on Fitting out Canoes for Racing, refer to: 'Paddling a Racing Canoe by Steve Train'

Training Programmes

Planning is a long term activity involving not just what race to attend next month, but actually to look years ahead. The plan is not a rigid document "cast in stone" it is a constantly refined and adapted plan as experience is gained, successes are repeated, failures eliminated and new ideas tried out.

There is no single schedule that suits everyone, all paddlers are different and so their individual strengths and weaknesses must be catered for. A basic framework can be used however from which individual or group plans can be tailored. It should be kept in mind that paddling is not the only option open to a canoeist. If conditions are unsuitable due to poor weather, dangerous water levels or if access to water on dark evenings is a problem there are other things that can be done. Linking with local running or swimming clubs for basic conditioning work during the week and paddling at weekends is an option successfully used by some clubs.

Canoeing is an all round body exercise that requires a mixture of speed and endurance. As coaches we need to work on that all round fitness in different ways.

We need to produce athletes and not just paddlers.

One of the main aims of a Coach is to coach IMPROVEMENT; the training must therefore be PROGRESSIVE. For a Paddler to benefit their training must be progressive.

IMPROVEMENT may be on a performance basis where the paddler gets faster, it could also be in the acquisition of skills related to the sport, such as turns, wash-hanging, portaging etc PROGRESSIVE means gradually increasing the quantity (distance) and or quality (speed) of training for an athlete over a period of time as their body becomes used to a given training load. As a paddler trains, their body will adapt in the periods of rest between training to the physical stress they are placed under. Improvement can only take place, if, after a period of time, their body can adapt to allow them to cope more easily with the training load. Therefore to continue improving it is necessary to increase the quantity and quality of training as the athlete becomes more trained.

The training in the early days should be a balance of skill acquisition and performance, the sessions should be safe yet slightly challenging, they should be enjoyable but progress should be evident to both the paddler and the coach.

As a Coach, your responsibility is for running coaching sessions for small groups of paddlers; the sessions would probably have been set by someone else.

Between late October and March, many paddlers and clubs will only be able to go out on the water at weekends. Even then it may be extremely cold, there may be frozen water on canals, and paddling may be difficult and unattractive and unsafe for beginners.

On the other hand, some clubs have safe and easy access to stretches of river in urban areas that are well lit, and these clubs may feel able to paddle at night. Coaches may therefore feel that it is appropriate for a variety of reasons to introduce amounts of cross training into their programmes. This is additionally important as a means of developing the all round athlete. It can take various forms.

a. Running
b. Circuit Training
c. Swimming
d. Weight Training
e. Paddling Machines
f. Other Sports

If there is no one at the club with special skills in these areas, the coach may wish to train and take specialist advice before introducing these activities to paddlers, especially children.

a. Running:

Running is a very efficient way of developing cardio-vascular fitness. It can be done on pavements, in big car parks, on tracks or on grass in towns and country often in well lit areas. As a guide, for developing aerobic fitness it is necessary to work hard continuously for at least 12/15 minutes at a time. This minimum figure can be extended to sessions of 45mins - 1 hour or more.

A typical winter regime might include 2/3/4 runs per week, dropping to 1/2 during the racing season. This might include:

Long steady runs, of 2 miles up to 12 miles depending on age and ability. Shorter intervals, e.g. 3 x 2000m, 3 x 1200m with recovery rest. These would be timed on a set course to provide a record of improvement.

Hill running - ranging from running along a very hilly area with repeated sharp climbs then easy spells, or created sessions using a convenient hill, then running it repeatedly with jog back rest.

Shorter interval running with short rests based on the same formats in time as the canoe sessions e.g. 400/800m.

Always begin sessions with mobilisation exercises including muscle groups, and raising the heart rate. For small groups of paddlers, joining a running club or a cross country league club can provide wonderful training.

b. Circuit Training

A vital and socially useful part of winter training for clubs is a weekly session of circuit training. This is easy to organise, using the local school gym or sports hall, or even the village hall or scout hut. It is a good midweek focus for paddlers.

The session can include an unhurried warmup and stretching routine - a good way of encouraging all paddlers to stretch correctly. With minimal equipment a circuit can be set up to tax the Olympic athlete or the 9 year old

A typical circuit could consist of:
Sit ups..... Dorsal lifts..... Squat thrusts.... Dips.....
V sit..... Press ups..... Leg rises.... Rotations.....
Tuck jumps..... Chins on a beam, or bar.

Sessions could be run with 30 to 40 seconds of effort, time to change station and then go again. Or. paddlers can work out their maximum at each exercise in 30 seconds and then set their targets at 60/75% of that. Doing 4 laps will produce a high quality session of up to 20 minutes.

The training session can then be added to with shuttle relay runs incorporating sets of exercises, further small circuits concentrating on certain muscle groups etc. Basketball or 5 aside football could be a fun end to the session of 11/2 hours.

See appendix for a typical circuit training layout

c. Swimming

This is excellent training as front crawl brings into action and develops identical muscle groups to paddling. It is easily arranged, and once again can be enriched by joining a local swimming club.

Types of sessions can be tailored to the swimming skills of your paddlers, but need to ensure that they are extending their level of fitness with efforts that keep heart rates at training level for 12/15 minutes at a time as a minimum.

A typical series of swimming sessions twice a week might include:

- Long steady efforts of 20/40 lengths - preferably front crawl/butterfly, in all 60 - 100 lengths per session.
- Sessions of intervals, 10/8/6/4 lengths with rests of 30% .3/4 sets of this.
- Timed efforts e.g. 2x (8 x 100m) in 2 minutes each 100m, the rest being the time left in the 2 minutes.

Most swimming club coaches will be delighted to help with sessions that will motivate your paddlers and prevent sessions that drag and become plods.

d. Weight Training

This area of training demands specialist knowledge that can be easily obtained from local clubs and training courses, local sports centre or gyms will offer a wide range of Equipment and help, Weight Training can be a dangerous activity that can cause severe long term injury if incorrectly carried out. Coaches are advised not to run sessions without suitable qualifications and/or training, The British Weight Lifting Association qualifications are recommended.

Paddlers can improve their strength using free weights and machine based weights. Traditional “heavy” weight sessions with low repetitions and increasing weight loads to maximum may form one aspect of this training.

High repetition exercises using lower weights in various circuit arrangements build muscle endurance. Less weight is used here and the activities are easier to organise.

A club can readily build up sets of loose weights and benches from the local free ads in the paper. If you can import an expert to supervise then this is another club based activity, if not then get trained yourself or go to the local gym?

e. Paddling Machines

These are becoming more and more popular and available, recreating the paddling action indoors either for kayaking or canoeing, they are a very valuable way of allowing paddlers to train the right muscles in the right directions whilst paddling on a machine.

They can be included in a circuit session, they can be used for extended periods of time and sessions on them can replace water sessions should the conditions outside not be suitable. They have a very important role to play in technique teaching and development as the coach can have a more interactive role in the correction of faults and in demonstrating good technique.

More information on the use of machines is in the 'Paddling Ergo Resource Pack' details of which are in the appendix.

f. Other Sports

Encourage your young paddlers to take part in as much sport as possible - swimming clubs, fun runs, triathlons, football, basketball athletics, orienteering or cycling. All can provide a good base for the all round athlete and cut the chances of repetitive strain injuries. It may not be until 15/16 years old that the paddlers want to specialise and give up other sports. Care must be taken that these sessions are not too physical in terms of contact as injuries can easily occur, particularly with paddlers whose skills in the other sports are not so great. Cross training and multi sport events are also a very good complement to training, especially if canoeing or kayaking is one of the events that is available. To improve boat skills, taking part in other canoe or kayak activities such as Wild Water Racing or Canoe Polo can also help as well as improve the paddler's fitness in a paddlesport related activity.

All training must be progressive.

As with paddling training, sessions on land must also be progressive.

If the running session is to have a training effect, it must be done progressively faster, or must become longer at the same speed. If the swimming session of 30 minutes becomes comfortable it is time to up it to 40 minutes or increase the tempo.

If the heavy weight session is achieved it must be done with more weight.

If the 5 mile time trial is only paddled comfortably at the same speed as usual then the training effect will be one of keeping fit, not improvement.

The coach needs to be constantly looking for ways to get paddlers to a new level on the ladder of fitness.

Training Sessions

Training programs and training sessions are what most candidates feel they have most to learn. Whereas most good experienced coaches would suggest that there are many other factors which have as much, if not more, influence on performance, especially in the early stages of a racers career. It is important to remember the priorities for the coach:

1. Safety (Make sure the conditions are appropriate and all the appropriate checks have been made)
2. Enjoyment (ensure success, achievement and fun)
3. Technique improvement (to allow fulfilment of potential)
4. Conditioning (for effective use of good technique and general health) In the early stages of a paddlers career conditioning is very often a by product of enjoyment and technique improvement.

Session Content

Each training session should normally include the following:

- Briefing
- Warm Up
- Training
- Warm Down

Review

1. Briefing

Each session is a small part of the overall piece of the performance jigsaw and each piece is there for a reason. Make sure both you and your paddlers know the reason!

- The paddlers need to know what is expected of them during the session. Keep it short, punchy and understandable!
- If possible continue to remind your group before each part of the session about what comes next.

2. Warm up

The 'warming up' process is one that is often neglected or ignored. The warm up is an essential part of the training session and should be done every time at the start of a training session or an event. Depending on the type of training or event the warm up session will vary. Examples are given in the appendix of different warming up regimes that can be followed.

Depending on the Nature of the Training Session or Event and other external factors such as air temperature/time of year the warm up can vary in content or duration.

As a general rule though, the shorter and more intense the event, the longer the warming up period, the longer the event, the shorter the warming up process.

A Sprinter for example with a very short intense burst of speed needed would spend a considerable amount of time over the warm up process. A marathon paddler would not need quite so long although the starts for a Canoe/Kayak marathon can be quite intense themselves. It is important the warm ups are practised and rehearsed prior to competitions, so the paddler has experience of them and knows it works!

Warming up can be fun, with young people maybe play some warming up games rather than a very formal exercise session. There are many games that are suitable in 'Canoe Games' a book written by an ex-GB International Paddler Warm up sessions have distinct sections to them.

These include:

- A gentle raising of the Heart Rate and thus the core temperature.
- Mobility Exercises to loosen up. Flexibility Exercises to increase the comfortable range of movement to be used. Technique related exercises in the boat to assist development.
-

An ineffective warm up will lead to poor performances in races, but just as importantly will reduce the quality of every training session throughout the year.

3. Training

This is the main work part of the session, the content will depend on the aim of the session e.g. endurance, speed endurance, speed etc. The sessions will vary depending on the paddler's goals, the stage of the training, the development of the paddler and the time of year. The Coach will be delivering a session that fits into the bigger annual or greater programme of development for that particular paddler.

There are many variables to be considered in training: depending on the goals that the paddler and coach have agreed and set; the discipline or distance that they are interested in, then training sessions will work to develop the particular areas required for success in achieving those goals. The year can be divided into periods.

These would be:

- Preparation
- Pre-competition
- Competition
- Transition

An example of a planned year is in the appendices at the back of the manual. (p.60) The sessions can be categorised into 6 training zones, depending on the goals of the paddler, the stage of development they are at that and the phase of their training. The differences in the zones are the intensity of the effort required

1	CAP	Core Aerobic Pace
2	THR	Threshold Pace
3	SRP	Sub Race Pace
4	RP	Race Pace
5	PRP	Peak Race Pace
6	MRP	Maximum Race Pace

Details of these are in the appendices at the rear of the manual.

We need to encourage our paddlers to become all round athletes and not just paddlers.

4. Warm down
After the training a period of steady paddling for 5-10 minutes will aid active recovery, longer after a speed session. This can be followed by a session of static stretches

Refer to the warming down exercises at the end of the manual.

5. Review
Feedback from the session: This is the time to assess the value of the session for both the paddler and the coach. A chance to follow up on technique issues etc.

In planning a session make sure time is allowed for getting changed (5 - 20 minutes) and getting the necessary equipment out and getting your paddlers on the water (5-15 minutes). It all takes time. The bigger and the newer the group the longer it takes!

The way that a training session is best organised will depend on a group's ability span. Here are a few ideas to help a coach set up the session so that all the participants feel they were successful. Coaching Points:

a. Run the session on an out and back or circuit course if you are unable to follow the training in a boat or along the tow path. It allows the coach to keep an eye on the session without moving.
b. Keep the group together by staggering the starts for each section of work by giving the slower paddlers a head start. This will equalise the duration of work for all the paddlers in the group.
c. Use K2's to equalise the group's ability by matching fast paddlers with slow. This is particularly useful to introduce race tactics.
d. Training over a given distance for example 500 metres, set the fastest off last and the slowest off first. Make sure the slowest paddlers in the group get sufficient recovery time as they are often the ones which need it the most.
e. Small groups of like ability can train head to head.
f. By getting paddlers training in pairs of like ability and compatible personality they can help by part coaching each other.
g. Pair up more experienced paddlers with novices in K2's, this will enable skills such as portaging, wash-hanging and turning to be passed on easily and also assist with balance, watermanship, pacing and race tactics
h. Plan carefully how each session should be run to ensure that as many of your paddlers that want to get the desired benefits from the session. For example an endurance session is paddled at an even pace rather than as a series of short burns.

Know Your Group
It is important to know the ability of your group to pitch the session at the right level for them. If your paddlers do not have the necessary skills to properly attempt the session it is likely to discourage rather than encourage. If it is not taxing enough it will be considered 'boring' and be of little use in improving ability. (Hence the importance of monitoring improvement).

To ensure that your group has the skills they need to train it may be necessary to find ways to improve them, either using the club instructors or spending a couple of sessions recapping on basic skills before attempting a full training session

Aim to make each session both challenging and achievable.

Record Keeping

Times and observations made in training provide a coach with the basic data to establish how training affects the progress of a paddler. It is therefore essential to keep a regular record of each paddler's improvement. Used wisely a record of progress can motivate paddlers and help the coach to plan effective training.

How Much To Record

For a coach with limited time it is important to strike the right balance when recording training information. Too much information makes analysis and diagnoses complex and time consuming whereas too little can lead to flawed judgements. As a guide to monitoring Paddler performance the following formats for record keeping are suggested

1. Individual Training Logs

Try to persuade your paddlers to keep their own training logs in a daily form. Any notebook or diary will do. Until it becomes habit it is quite difficult to get them to do it, particularly juniors. Without keeping a log they do not really know what they have been doing from one year to another.

Coaching Points

Introduce a standard sheet or booklet for your paddlers and allow time at the end of training to complete them.

Make use of the "Paddle Power" scheme at your club to set the habit of recording training.

2. Coach Records

Establish some form of record keeping for each of the paddlers you are coaching: Name, Address, Telephone number, date of birth, Home Nation Membership number and sprint registration number. Also their PB (Personal Best) for your standard time trials, PB regatta times, marathon and sprint divisions, promotions and major achievements, should be recorded. Make a note as well of contact details in the event of an emergency and any medical issues there may be such as asthma, diabetes etc.

Frequently the athletes themselves do not know what their PB's are, if they are improving and by how much. If you keep the records you can ensure they are entered in the correct division / age group / race class and monitor their progress. They may be knocked out in the heats of a regatta but from your records you may be able to show a PB time or even compare them with some known "superstar" at the same age to provide positive encouragement. A record of major achievements can also be useful for grant applications, sponsorship and publicity.

Coaching Points:

Use the information to reinforce positive features of an athletes training e.g. improvement in a PB or re-emphasise experience gained or new skills learned.

Sprint Racing

Pre Race

Regattas usually start with a Team Leaders meeting; ensure your paddlers are represented as any changes in the programme made there could seriously affect the chances of success during the day.

Prior to leaving for the start ensure that boat/ lane numbers are in place, that your paddler knows what lane they are in, how long they have got to get to the start and that their boat is the correct weight. Make sure that the rules of going up to the start are followed and that the paddler is clear on the warm-up they will be doing on the way there. Give them plenty of time to get to the start; if it is a cold day, then extra layers could be worn that are discarded after the warm up. Remember to slow down when races are coming down the course so your wash does not affect the paddlers coming down in the race. It is always good to practice some starts once up at the start area. If possible sit someway behind the line in the correct lane and listen to the starter's commands.

Get there in plenty of time

Start

There are three ways that starts are carried out .It could be a free start where the boats are aligned from the bank. When the starter is ready the boats will be called to attention and then off they go. These are very difficult for the starter if the conditions are bad; getting up to 9 boats in line is not an easy job. It is Important to remember that there will be boats moving up and down on the start line so make sure that your paddlers know that they must not be moving backwards when the GO command is heard! Held starts are where the stern of the boat is held by a marshal, this helps with the alignment, but some skill and practice is needed, particularly if there is a crosswind. Some new paddlers find it difficult to back onto a held start. In the appendices are some practices that can be used in training to help overcome some of the problems in reversing into spaces in racing boats

The 'bucket' start is relatively new. Here the bow of the boat goes into a 'shoe' that drops out of the way when the 'go' command is given; it happens very quickly and is the fairest starting procedure that there is.



For all starts it is important that the boat is facing directly down the course and in the middle of the lane. On the attention command, have the blade ready in the water ½ covered and on the 'go' get the boat moving past it as quickly as possible. With the blade already in there is no wasted time on the first stroke. Accelerate the boat for the required number of strokes, then settle into the right pace for the next stage of the race. With a crew boat, it is important that the crew know the behaviour of the stroke paddler, and that they follow every move that's made with the paddle before the start. An agreement on which side to start can help, but sometimes a last minute adjustment can throw the best laid plans so it is important that the crew are all prepared for the command. Whatever boat is being paddled, single, double or four, it is important that starts are practiced in training.

Tactics

Once the boat is up and running off the start then the tactics for running the race have to be put into effect. The paddler should have a race plan. These will vary, but whatever happens they must have given all they have as they cross the finish line and not have too much left. Equally they must ensure they do not 'burn out' part way down the course and be unable to finish the race competitively. It is very easy for younger paddlers to go out too hard and exhaust themselves part way down the race, they have also been known to take it too easy and have plenty left after the finish. A race plan with even split times over the distance would be a good approach to start with; these can be rehearsed in training. It is very easy for new competitors to react to the opposition rather than paddle their own race, If possible rehearse the race plan in training.

There are some very good notes from Ian Wynne in the appendices that refer to this.



Finish

The last part of the race is crucial, up to then it has been about positioning and pacing, as the last 100 metres comes close this is when a finishing spurt can come in and the paddler can give that extra effort to get to the line. The key here is concentrating on technique by trying to drive the boat forward just that bit harder rather than just increasing the stroke rate. If the technique deteriorates, so will the boat speed. Remember also that a 1000 metres race is just that, not 999 metres. It goes all the way and should be raced all the way so with close finishes it is all important to keep racing as hard as possible to the line and even 1 or 2 strokes past it just to make sure.

Post Race

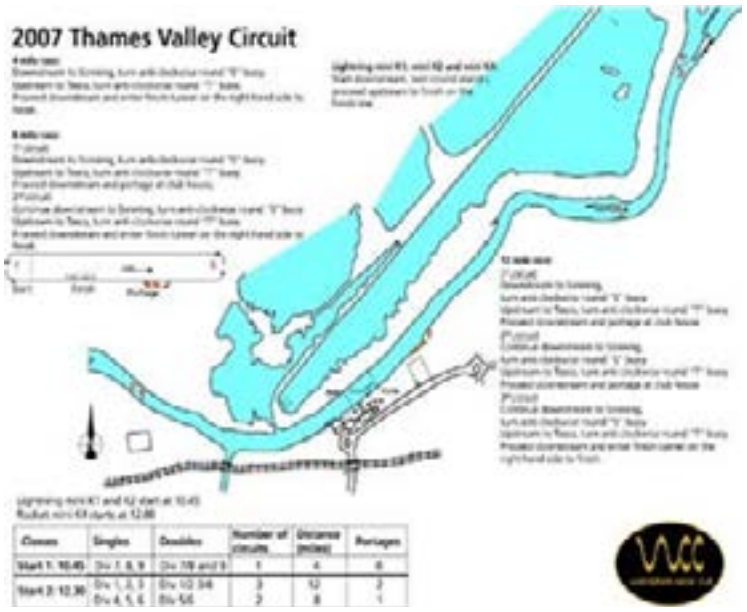
The time after the race is also very important. The paddler must go through their warming down routine both on and off the water. There may be an event following fairly closely behind, or it may be the finish for the day. Stiffness has to be prevented for the next day's racing. Mixed with this is the requirement to have boats checked and even being called for doping control if it is an event where tests are being carried out. These are compulsory to attend, but a reasonable amount of time is allowed for the athlete to get there. Listen out carefully for calls to attend.

Marathon Racing

1. Before The Start

Check out the course with your paddlers. Make sure they have answers to the following questions:

Where is the start? Which way is upstream, or if tidal, which way is the tide running? Which side is the first bend or portage? How long is the race? How many portages are there, how far into the race and on which side are they? Where are the turns and are they clockwise or anti- clockwise? Are there any shallows or other hazards? Where is the finish and are there any landmarks that will warn you it is coming up?



Glean extra information from the locals or club mates who have paddled the course before. If possible paddle one lap of the course and practice the portages, certainly inspect the portages and look for the best places and then the alternative places to get in and out.

If possible watch how the starter manages the previous starts. Ensure that your paddlers know what time their start is, which class starts before them and the gap between different starts. Encourage your paddlers to warm up in the section immediately after the start so they can check for any hazards (e.g. overhanging trees round the first bend etc.).

2. The Start

The start at a mass start marathon can be the key to a race; often the first 2 km. of a marathon race determines the eventual winner. Paddlers need to be positioned on the start line to their best advantage - knowing the direction of the flow, which side the immediate bends are on etc. Advise your paddlers once on the water to keep away from any boats that seem to be having steering problems or are looking unstable - they are likely to have problems in the lumpy water after the start and they need to keep out of trouble. Watch where the known “fast” paddlers are starting, look for where the local paddlers are lining up - they may know something you have missed.

Anticipation of the starter’s commands are the key to a good start, don’t jump the start, but be there prepared for the starting signal. Get the boat moving up to a fast speed as quickly as possible to get ahead of the other boats immediately around; a good fast start is essential to get ahead of the washes from the other boats. The quicker the paddler can then settle into a comfortable rhythm for the rest of the race the less the effect will be of this initial fast pace from the start. There will be times during the race where the pace will change and there will be tactical increases of speed required from time to time, so the more the paddler has left for this the better. The time trial form of Marathon Racing is not as dependent on the start as positioning within a group is not an issue, instead an even paced race is possible here, although the opportunity for wash hanging is not so great. In a lot of cases any available wash would be from boats having caught you up, or from boats which you have caught and are going slower than you.

3. During the Race

During an upstream section of a race it is very important to stay out of the current. The faster the current, the more important it is to stay out of it. The fastest current is in the middle third of the river and around the outside of the bends. Where the river is restricted by bridges, rapids, shallows etc., the faster deeper water is often flatter and smoother and midway between the obstacles. The slower water will be on the inside of the bends and close to the bank. Even when the river is very high there is usually a band of slower water very close to the bank.

It is more productive to work harder on the upstream legs of a race than the downstream legs. The opposition can be dropped quicker by working hard upstream. It is difficult for crews to overtake a correctly placed paddler close to the bank. The only way around is out into the current. Obstructions on the bank such as trees and moored boats often cause eddy currents where the water is a lot slower or even flowing upstream. Paddlers should stay in these as long as possible. However if the river is very high the eddy line between a narrow upstream eddy and the main downstream flow can be very sharp. Paddlers need to be pointing back towards the bank when they reach this line because they will get swept out into the current and have to fight to get back in. When paddling upstream on a twisting river, the paddler will need to cross from one side of the river to another in order to use the slower water on the inside of each of the bends. It is almost always better to paddle past the crown of the bend before making your cross over. Many paddlers make the mistake of crossing too soon and have to paddle in the current for longer.

When crossing the river, accelerate to be in the current for as short a period as possible and get to the other side as quickly as possible When paddling downstream, paddlers should generally use the faster current in the middle third of the river. On deep, slow flowing rivers and canals they can take the shortest route by straightening the bends, on shallower rivers, they need to beware of shallows on the inside of the bends. A high vertical bank usually signifies deep water close in but a long shallow entry and/ or reeds growing in the water usually means shallows. Here it is best to keep on the inside edge of the middle third of the river and keep in the downstream flow whilst still making the distance to be paddled as short as possible.

Wind against current or tide will produce short breaking waves. These will be largest where the current or tide is strongest. Paddlers should try to stay out of the worst of them as they will slow the boat down (and perhaps fill it up). They need to look for whatever shelter there may be from the wind (under high banks etc.). Where there is a following wind, the waves get longer and sometimes steering becomes harder as the back of the boat can be blown around and the rudder is not very deep in the water.

Marathon Racing is as much as sharing the effort with people around you who are going at roughly the same speed; co-operation between paddlers will help make the race go more smoothly.

Remember though that everyone is out there competing against everyone else. Any favours that may have been given or efforts shared will soon be forgotten when the finish line is coming into view. It then it becomes every one for themselves and nothing will be spared to get in front across that line.

The finish of the race has to be judged well, try to avoid doing the last effort before the line comes into sight, try to be that little bit more rested on the wash than the others around.
It is important to know where the finish is in order to know when to commence the final effort to the finish line. Make sure that if you're sitting on a wash, that you have time to come off it and get past the lead paddler. Don't leave it too late, but equally, don't go too early and drag the opposition closer to the line on the wash.

Overtaking is a technique that also has to be rehearsed in training, moving out, going wide and away from the wash is one method, getting a surge up the wave of another boat and then peeling away and past is another. Use of the insides of the bends can mean a shorter route for the overtaking boat. Timing the increase in effort is important; recover on a wash before the effort and have that extra little bit of speed in hand. If wash sharing is taking place then as soon as the lead is gained, then ease off to a comfortable pace again to allow recovery for the next tactical move. To try to drop someone from a wash, acceleration combined with a move towards the side they are sitting on will possibly get their boat behind the wash and then make it difficult to regain the most advantageous spot. Any moves across the bow of another's must done fairly and with clear water between the boats.

Have a look at Mick Nadal's 'Race Tips for Paddlers in the appendices

Basic Rules to remember: Know the course, start procedure and your opposition. Use your knowledge to get the best possible start. Stay close to the bank when paddling upstream and use the middle third downstream. Straighten the bends on still water. Avoid large waves as they will slow the boat down. In windy conditions keep in whatever shelter that m ay be available. Lean forward slightly in head winds and sit up in tailwinds.

Wash Hanging

1. The Side Wash

Wash hanging is one of the main tactical skills. It is a technique used for gaining advantage from the wave created by other boats. By positioning the bow in line with the lead paddler's body and about 1m - 1.5m out to the side, the second paddler is continually paddling downhill into the hollow created by wake of the lead boat. He thus expends less energy than the lead paddler whilst travelling at the same speed.

There are 3 easy stages for a Paddler to try in the process of finding the wash

- Paddle roughly in the right spot
- Notice the bow bury slightly in the first wave
- Feel the wave, move towards and away from the lead paddler and up and down the wave to try to find the 'sweet spot' on the wave where the effort feels less whilst staying with the lead paddler.

1. The V Wash

Sitting in the back of a group of 4 can give the paddler a very good ride on the wash as there is benefit to be gained from all 3 boats around. It is a position, however, where the paddler can get 'trapped' and not be able to dominate a move early enough to gain benefit in the longer term. It is a very good place to recover during the race.

3. Wash Hanging in Groups

This is often one of the most exciting and challenging aspects of Marathon Racing with each paddler having their own agenda in the group and their own perspective of what is happening. The photos show the jockeying for position by the paddlers at the back of the group. These would be the most vulnerable when features such as portages or turns are encountered during the race- they always have to have an awareness of what is going on.

Get paddlers to practice and train on washes; use the drills in Cross Stream Challenge and the appendix for ideas of what to do.

Portaging

Most marathon races include at least one portage, but portaging is probably the least practiced racing skill. Some paddlers like portaging, others loathe it, but those who can portage fast and clean can often make up impressive margins on the opposition for very little effort. Running speed is often not the most important aspect of portaging well, although it undoubtedly helps, rather it is the paddlers ability to plan and execute the manoeuvre cleanly which can make all the difference.

1. Planning

Know the portage.

If possible inspect the portage beforehand with you paddlers. Even better, if there is a chance to actually practise the portage, then take advantage of it. For each paddler decide a clear plan with take out and put-in points and alternative spots if the first choice is blocked by other boats. The options should avoid shallows, underwater stakes or tree roots that could damage their boat and impede movement into or away from the bank.

2. Approaching the Portage

Get into position in the group early to get the best spot.

Do or die bids at the last minute can impair a paddlers performance for the portage and the rest of the race.

The main aim in the approach should be to have a clear run in to the portage. The lead boat into a portage has the pick of the best places to get out. Avoid clag ups, it is very rare for paddlers involved in a portage tangle to get away first.

Getting Out

River/Canal Bank or Pontoon

• Make decisions about what to do early.

When the paddler has identified their chosen spot they need to kill the boat speed with a reverse paddle stroke on the side away from the bank. If a spray deck is worn, this should be undone before the boat stops. Many times you see crews having to stop the moving boat by grabbing the bank with their hands. This loses time, injuries to the hands or fingers could occur and mud and gravel can be picked up.

The paddler should either exit the boat by pulling themselves forwards on the front of the cockpit, or using both hands on the bank to stand up. Contact with the paddles should be kept at all times. .The boat is picked out of the water at its point of balance. By keeping paddles to hand at all times and weight forwards the technique is executed smoothly, without pause.

Beach Landing

River/Canal Bank or Pontoon

• Try to keep the boat moving forward all the time.

A good beach exit from the boat requires practice and good balance. The incoming speed should be adjusted so balance is not lost when the boat reaches the beach, but this speed can be faster than when approaching a bank or a pontoon. Depending on the skills of the paddler, the boat can be exited from by a number of methods. The paddler can come in seated all the way and put their legs out onto the beach when the boat has almost come to rest and stand up with one leg in and one leg out of the boat.

Alternatively the paddler can start to stand whilst the boat is still moving, using the back of the blade to brace, then step or jump out when the water is a suitable depth.

What is important is that the exit is clean and the boat does not take on water. With doubles the timing of the exit is crucial as an extra paddle stroke whilst one paddler is standing will result in overbalancing, as will hitting the beach if the boat is going too fast.

Carrying the Boat

- If the boat needs emptying do it at the start of the portage.

Paddlers frequently waste energy by carrying their boat half full with water for the full length of the portage before stopping to empty out! The decision needs to be made early on the method of carry - shoulders or cockpits.

The shoulder carry is easier on the arms and can drain water from the boat at the same time. The cockpit carry can be quicker for short portages, particularly with light boats. Either way the paddler should try to keep the boat level and balanced while on the run and carry their paddles in hand. (Put them in the boat only on very long portages). The run should be controlled and within the limits of the paddler, but it can be worth speeding up to hold back other crews trying to overtake. On soft ground or sand, the stern of the boat is sometimes dragged, whilst being an effective easy way to run with the boat, there is the potential for damage. If this is the preferred method, then hold one side of the cockpit so the boat is on its side and not bouncing on the rudder. The shoulder carry - the boat is best lifted on the run (remember the paddler must keep moving forwards).

Carry K1's with hull towards neck, cockpit facing out and the arm on the carrying side extended forwards to grip the cockpit rim near the point this should hold the boat securely and prevent it bouncing around.

A K2 can be carried on its edge or upside down. Both ways will empty the water as the paddlers run along. (If carried on its edge paddlers need to be on opposite sides of the boat for it to sit correctly and drain). Once on shoulders, each K2 paddler should work their way towards their end of the boat as they run.

When carrying a K2 or C2 by the cockpits it is important that the two paddlers share the weight. The front person can shirk by holding the very front of the cockpit leaving the back paddler with most of the weight of the boat and all of the water! Some K2's and C2's are equipped with handles, use these for long portages or if the boat is heavy.

Do remember to look where you are going!

Getting Back In

Methods of getting back in vary, just as getting out does, depending on the nature of the portage. More mistakes are made at the end of portages that cost valuable seconds than at any other stage of the race.

River/Canal Bank or Pontoon

Know the options for getting back in the boat, have a back-up plan in case the first option is not available. If a paddler is behind on the portage, they should run on. It is usually best to run to the next put in to overtake the first boats back on the water. They should not stand and queue unless there is absolutely no option. Paddlers need to be on the right side of their boat to put their rudder in first followed by the rest of the boat.

The bow should point, away from the bank as the paddler steps in to sit down. Spray decks can be fastened when the boat is moving. A fast confident push off from the bank will keep the paddler and boat moving. In a double the front paddler should push away first to keep the bow of the boat pointing away from the bank.

Singles Beach Re-entry

Pick the re-entry spot well, with little risk of being boxed in or capsized, Get out to a depth so the rudder is safe and the blades can be used to paddle, without it being too deep to get in the boat.

Get one leg in, brace with the paddle, the other leg in to a standing position, sit down quickly and get the boat moving away as quickly as possible to avoid being pushed in by following paddlers.

Practice is essential, both for picking the right place to get in and considering any other options. Rehearsing the portage will improve the balance required to get back in the boat without losing too much time. Once away from the immediate portage area, Spraydecks can be put on, sitting position adjusted etc.

If a paddler is not too happy about the standing position, then with one leg either side of the cockpit, they can just sit down, swing the legs in and get away as soon as possible, alternatively, with the legs on one side only the backside can go in first, the legs swung in and off again as soon as possible.

Whether the support stroke on re-entry is on the side from which the re-entry occurs or the opposite side depends on choice, ability and confidence. Whatever the paddler is happy with in training, then that is the one to go for.

If the boat can be kept moving forward during the whole getting out and then the getting in process, then less time will be lost and the paddler will stand more chance in either staying with a group, or indeed losing the group behind.

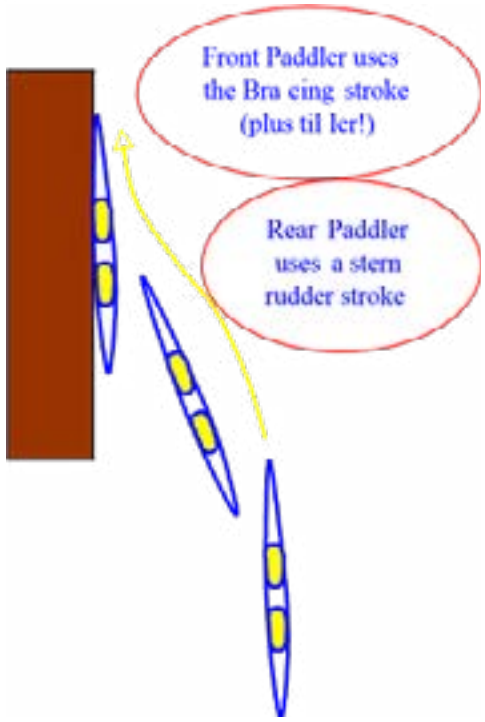
Doubles Beach Re-entry

With K2's the principle is very much the same, but a fast crew will succeed with good timing, confidence and trust in each other to do the right thing at the right time.

Again, practice of these skills is essential, so each person knows what the other is doing, spoken communication is then unnecessary.

C2's are very similar, also requiring practice, balance, confidence and trust.

Remember, a portage is only part of the race. Often staying with the group is all the paddler need do. They must stay in control and use their com m on sense.



Coaching points:
a. Every training session starts and ends with a portage. (You have to carry your boat to and from the water). Make sure your paddlers use this opportunity to practice.

b. Allow time to experiment with different ways of carrying the boat as well as using different ways and locations for getting in and out.

c. Practice the basics; picking up, emptying, carrying, putting in, and getting in and out to remind your paddlers before any portage practice. Fast portaging is not just a matter of running fast!

d. Good boatmanship and stability is essential for a paddler to portage well - set aside time to practise boat skills!

Aim to portage swiftly and without errors. Less haste and more speed -controlled, no mistakes portaging will save the most time. Treat each portage as a challenge rather than an obstacle. They are also an opportunity for taking sustenance.

Getting Out:
Communicate with your partner - agree the means of carry before reaching the portage.

Approach the portage wide.

Steer the boat and use sideways movement of the boat plus braking and steering strokes to kill the speed. Avoid using the hands to stop the boat - this will pick up dirt and possibly cause injury.

Prepare as you come close to the portage. Get the decks off or unzipped and get the knees up ready to stand before the boat comes to a halt. All this is done whilst the boat is moving to save time.

Lift the boat out together from the back of each cockpit for better balance.

Carrying the boat:
Suitcase style - for short portages with an empty boat.

Shoulders either - Pick the boat out and lift straight to shoulders. Try not to halt forward momentum.

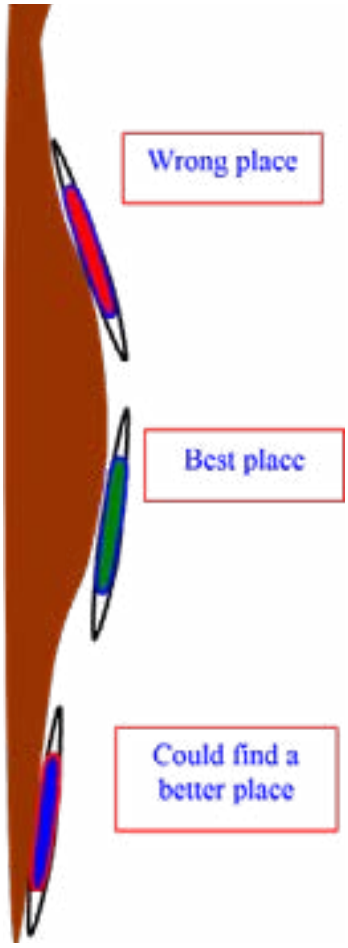
Or - Lift the boat on to the bank, then go to ends before lifting on to shoulders.

When possible use a two-handed lift for control and safety.

Running Speed:
Must be sustainable for the portage and the paddling afterwards.

This is always a good time to take on refreshment.

Unless there is a proper feeding station, the best place to feed is at the end of the portage as the paddlers are getting in their boats.



Getting in
Decide early the best spot to launch (see diag) Launch using cockpits.

Place the stern in first, taking care of the rudder. Take time to eat or drink. Front paddler pushes away first.

Rear paddler holds the back into the bank to allow a favourable course from the portage. (If the boat is well placed there will be no need to push away using paddles).

General Points
Learn the course to allow early decision-making. Work together as a crew.

Keep in contact with your boat and paddles at all times.

Remember the aim of the exercise.

Drinks Systems
Many paddlers like to have drinks systems with them. These can be on the body, or in the bottom of the boat with a tube near the mouth for easy use. It means extra weight to carry around, but it also means the paddler can drink when they wish to and not wait until the next portage or feeding station.

Whatever method of refreshing the paddler is used, it must be practiced before the race.

Turns

Marathon races invariably involve turns. The modern marathon race usually involves laps with a common start and finish point. Depending on the distance and the division paddled, the turns will vary in number.

There is no standard turn; they can vary from turning around a natural obstacle such as the end of an island, a man made obstacle such as a bridge, or artificial obstacles such as a single or a number of marker buoys.

All of these should be approached in a similar fashion, they are all opportunities to make use of good tactical paddling, gain positions during a race, or even break away from a group. Where there is a particularly difficult or 'out of the ordinary' turn, then an inspection or better still a practice of the turn is an important part of race preparation.

It is not always possible to be in the best position within a group for negotiating a turn. However, being aware of the possible moves that may occur and being able to find the most advantageous way around the turn is always beneficial.

A paddler should have a plan for each turn on a race when within a group and run with that plan rather than be dictated to.

Points to remember in turns:

The inside paddler on a turn paddles a shorter distance; the exit from a turn is the key to gaining a good position, consider where the best place is for the next part of the race; Position for the turn early and avoid 'cutting up' other paddlers. Keep a consistent line through the turn - collisions will slow or even stop both boats. Keep enough distance away to have room to get the blade in.

Practising turns in training can add value - it makes it a bit more fun and gives another dimension to the session. Some competitive sets in the session with a turn around an island or a buoy would be an excellent way to start exploring paddlers strengths and weaknesses in turns.

The Cross Stream Challenge has examples of exercises that can be used in training.

Racing Rules

Introduction

It is important that Coaches become familiar with the rules set out in the “Racing Handbook”.

Sprint Rules are at the front of the book
Marathon rules are at the back of the book

Sprint and Marathon Rules

Become familiar with the rules, particularly those regarding Race Entries, Home Nation Membership, Divisional Systems, Club Colours and procedures on the day of the event.

Sprint racing takes place on a Regatta Course under the watchful eye of a number of umpires and is closely prescribed by the “Racing Rules” which spell out the protocols for racing in lanes, overtaking, turns, wash hanging, collisions etc. Marathon racing however generally takes place on a river or canal where the majority of the race is away from the public eye. There are few umpires and frequently only the competitors know what really happened during much of the race. It is very much the paddlers’ responsibility to race in a fair manner and for the coach to instil a sense of ‘Fair Play’ into their paddlers.

Administration

Marathon

There are over a hundred Marathon events listed annually in the National Calendar as well as countless other local races and club time trials. Almost all ask for entries to be made in advance. Use the Marathon Website and links to organisers to find out more information prior to going (details in appendix).

Sprint

Entries can only be accepted on official entry forms from registered paddlers. The sprint section of the “Canoe Racing Handbook” includes a team leaders Handbook which is essential reading for all coaches and team leaders planning to attend a regatta at the National Watersports Centre.

Many clubs delegate the job of race entries to one person; however, it is the job of the coach and paddlers to make sure they have the right information.

User guide

The content and format of this manual have been selected to make it practical and user friendly. It is intended as a working document.

Contents

Risk Assessment Template

Venue: **Risk Assessor:** **Date:**

Step 1	Step 2	Step 3	Step 4	Step 5
What are the hazards?	To who?	Is the risk adequately controlled?	What further action is necessary?	Review comments/ date

Risk Assessment Example

This British Canoeing example risk assessment can be used by Coaches. However the Coach must check and amend it to ensure it is appropriate to the specific environment concerned and complete step four and five as appropriate to specific sessions.

Additional hazards and site specific hazards must be added as appropriate.

Venue: **Risk Assessor:** **Date:**

Step 1	Step 2	Step 3	Step 4	Step 5
What are the hazards?	**To who?**	**IS the risk adequately controlled?**	**WHat further action is necessary?**	**Review comments/ date**
Drowning	Student Coach	All participants to wear buoyancy aid Coach checks buoyancy aids		
Capsize with entrapment	Student Coach	Coach to check equipment (boats and footwear) Coach able to rescue an		
Capsize	Student Coach	Boats fitted with sufficient buoyancy to float when capsized		
Hypothermia	Student Coach	Session activities and clothing are appropriate to conditions Session cancelled if activities/ clothing are inappropriate to conditions Leader's safety equipment reflects conditions and the group		
Impact Injury (Hit with paddle)	Student Coach	Coach to exercise appropriate group control		
WInd (Not possible to manoeuvre boat as desired)	Student Coach	Session activities and clothing are appropriate to conditions Session cancelled if conditions		

Risk Assessment Example

Step 1	Step 2	Step 3	Step 4	Step 5
What are the hazards?	**To who?**	**IS the risk adequately controlled?**	**WHat further action is necessary?**	**Review comments/ date**
Inherent risk (blisters, joint injury, tenosynovitis, surfers ear, exposure to light etc)	Student Coach	Coach's safety brief includes disclosure of risk and highlights specific hazards Coach promotes safe paddling practice Coach first aid qualified Coach carries first aid kit Participants provide details of existing medical conditions Coach warns of exposure to sunlight First-aid-kit contains sunscreen		
Lifting injuries (inc trailers & roof racks)	Student Coach	Coach promotes and uses safe lifting strategies		
Collision	Student Coach	Group will be briefed about collision risk with third parties		
Site specific hazards	Student Coach	Coach performs dynamic risk assessment Coach refers to Activity Guidelines		

Guidelines to help build your own individual warm up	General warm up regimes - Flat water racing		Approximate time. May need longer, Unlikely to need less!
Training/ exercise type	**Range of warm up activities**	**Intensity of warm up**	**Duration of warm up**
Core Aerobic	• Jogging/paddle machine+ paddling • Dynamic/static stretches land/boat • Coordination exercises • Technique drills (in session?)	• Low intensity • Slowly raise heart rate (HR) to training heart range	15/20 minutes
Threshold	• Jogging/paddle machine+ paddling • Dynamic/static stretches land/boat • Coordination exercises • Technique drills (out of session)	• Moderate intensity • Slowly raise HR to training heart rate range and hold it for at least 2’	15/20 minutes min.
Sub Race Pace	• Jogging/paddle machine+ paddling • Dynamic/static stretches land/boat • Coordination exercises • Technique drills (out of session)	•On land – Moderate intensity • On water Very High intensity • Slowly raise HR to well wabove threshold and hold for 2’ • Some higher intensity paddling	20/25’ including land based work
Race Pace/Peak Race Pace Maximum Pace	• Jogging/paddle machine+ paddling • Dynamic/static stretches land/boat • Coordination exercises • Technique drills (out of session)	•High intensity •Slowly raise HR up to training heart rate range – towards maximum and hold for two minutes min.	15/20 minutes
Races and race practice	• Pre race paddle 90’ before Jogging/ paddle machine+ paddling • Dynamic/static stretches land/boat • Coordination exercises • Technique drills • Pre race mental rehearsals • Race specific practices eg starts	• Land – Moderate intensity • Water- Very High intensity • Slowly raise HR towards maximum and hold a high level for 2’ at least. • Include up to 300m of race pace paddling including max sprint • No inactivity of more than 1’ in duration	25’ to 30’ + pre race paddle session. Pre 2nd race 20’/25’
Gym sessions	• Running + paddle machine • Dynamic/static stretches on land • Co-ordination exercises and body exercises • Run though weights exercises with low weight and good technique	• Moderate intensity • Slowly raise HR towards training heart rate range • High intensity exercises before session • Keep warm and mobile at all times	15/20’ pre session
Running sessions	• Light running with coordination exercises, dynamic stretching, leg focus • Build running speeds as per paddling	• Moderate intensity • Slowly raise HR to training range	10’/15 minutes

Notes: Although it is advised to test this individually in training, up to 300m of race pace effort as a part of warming up will not detract from the subsequent performance, but will prepare body and mind for maximum performance levels.

Guidelines to help build your own individual warm up	General warm up regimes - Flat water racing		Approximate time. May need longer, Unlikely to need less!
Training/ exercise type	**Range of warm up activities**	**Intensity of warm up**	**Duration of warm up**
Core Aerobic	• Paddling • Technique drills – leave session with good technique • Land based stretching – static stretching	• 5/10' below training HR range • HR drops to 120/130 approx. • 10' min. of stretching	Ingest snack and fluids within 20' of the finish of the session Fluids during session if long
Threshold	• Paddling • Technique drills – leave session paddling with good technique • Land based stretching – static stretching	• At least 10' below training heart rate range • Gradual stepping down of HR to 120 – 130 during 10' paddling • 10' min. of stretching	Ingest snacks and fluids as soon as possible after session Fluids during session if long
Sub Race Pace	• Paddling • Technique drills – leave session paddling with good technique • Land based stretching – static stretching	• 20' to 25' of paddling below heart rate training range • Step down HR to 120/130 over warm down period • 10/15' of stretching – static stretching is good after training	Fluids should be taken in during the session or during warm up and afterwards Ingest snacks as soon as possible after session or race
Race Pace/Peak Race Pace Maximum Pace	• Paddling • Technique drills – leave session paddling with good technique • Land based stretching - static	• 15' of paddling below training heart rate range • Step down heart rate to 120 – 130 over warm down period • 10' of stretching	Fluids should be taken in during the session Ingest snacks as soon as possible after session
Races and race practice	• Paddling • Technique drills – leave session paddling with good technique • Land based stretching - static	• 20' to 25' of paddling below training heart rate range • Step down HR to 120/130 over warm down period. • 10/15' of stretching	Fluids should be taken in during the session Ingest snacks as soon as possible after session.
Gym Training	• Light running/paddling machine etc • Static stretching	• At least 5/10' below heart range of session • 10'/15' of stretching	Fluids should be taken during session. Ingest snacks as soon as possible. after sessions
Running	• Light running • Static stretching	• At least 5/10' below heart rate range of session • 10/15' of stretching	Fluids should be taken during session Ingest snack soon afterwards

Model Warm Up For Junior Paddlers At A General Training Session

This routine will:

- Warm up your body
- Prepare your muscles for training activity
- Help you “warm up” your brain to muscle connections
- Prepare you to paddle or move with good technique in the session
- Help get your mind focussed on a good training session

Warming up the body, dynamic stretches and coordination warm up

- Run comfortably for 5 minutes, keeping heart rate below 130. Stop and walk if necessary to keep heart rate down to that level.
- Run for 5 more minutes including the following exercises
- High knee lifts x 4, side steps/skipping x 10, spinning-running both ways x 5
- Arm swings, single arm and both arms forward/back while running x 5 each
- 5 pressups-run-5 squat jumps-run-5 start jumps-run
- Rotational swinging with arms x 5
- Touching floor as running - jumping to touch high x 4
- Biceps and triceps stretches
- Try other coordination and dynamic exercises Paddling – (Your boat/kit should be ready for you to move straight on to this activity) At least 2000m paddling focussing on technique and gradually raising heart rate to level you will need in the session.
- 500m with short pause before each stroke in good position.
- 2 left hand circles,2 right hand circles, 1 figure 8 each way.
- Paddle the boat 30m leaning boat to left, then 30m leaning to right
- Powerful leg drive both sides.
- Rotation - Shoulders follow shaft round both sides.
- Powerful catch and hold the catch while moving boat forward with your body,
- Practise any technique area you are working on at present.

Increase paddling speed as you do this to include 2 x 50m maximum speed with good technique

- If you do not feel good today, do more technique exercises, until you do feel right.
- The paddle session starts here though you have already done much valuable training. Gym: If this is a gym session run though the weight or gym exercises you will do with light weights and good technique instead.

Warming Down – Every session, water or land-based

- Paddle on to let your heart rate gradually go back to normal, which could take 5/10 minutes.
- Work on your technique while doing this.
- Back on land, do 5/10 minutes at least of static stretches. (Don’t forget these).

Warming Up and Recovery
A Guide for Lightning Paddlers, Their Coaches and Parents

What is warm up all about?

You need to prepare your body for any energetic activity before you start the actual event or training.

- Your body will work much more efficiently so you will enjoy more your paddling, running, swimming or whatever and do it better. You will be less likely to be injured.
- The more intense the activity the more thoroughly you need to warm up.

Recovery - Warm Down

After every session, whatever you do you need to warm down to help your body recover quickly.

Sample Warm Up:

- Get changed and get your boat ready for use later. Running shoes and warm clothes are needed.
- Make sure you have had some drink. The warm up:
- Run gently for about 6 - 10 minutes This is not a hard run, not a race, just a light jog, if you get really puffed walk a bit then jog again.

In the second half of the jog do the following exercises as you run

- Touch floor and jump high x 2
- Turn 360 degrees as you run
- Skip
- Do right arm then left arm swings as you are running
- Swing left to right at the hips as you jog

Take it in turn to think up some other whole body fun exercises

After the jog

- More arm swings, left forward, right forward, same backwards contrary swings - right arm forward left arm back and vice versa
- Horizontal arm swings
- Arm stretches each side
- 5 press ups
- 5 squat thrusts

Get in your boat

- Fidget around holding onto landing stage and get feel of water
- Paddle along for a few minutes
- Paddle in circles each way
- Paddle in figure 8's
- Paddle along in straight line leaning the boat one way

Feeling ready to go now?

After the Paddle/Race

- Spend at least 5-10 minutes paddling fairly slowly as your heart rate slows down
- Do some stretches on the land
- Drink and eat some carbohydrate – cereal bar, banana, sandwich etc within 30 minutes of finishing.

Static Stretching Routine

This routine will normally come at the beginning and end of a paddling, running or gym session, It will take about 10' to complete

- Ensure that the athletes have enough clothes on to keep warm, as they could cool rapidly in this session.
- If the routine is not after a training session, it is vital that a warm up routine is followed before the stretching to raise body temperature and warm up the muscles.
- Each static stretch needs to be gentle and held for a minimum of 8 to 10 seconds as part of a warming up routine and comfortable, relaxed and held for 10 to 30 seconds as part of the warming down routine. It is followed by at least 5 seconds of relaxation. Longer stretches will often have beneficial effects.
- It is very useful to carry out these stretches within a gym or weights session, in between sets or exercises.
- This routine covers most body areas.
- It begins with gentle back exercises which are essential for canoeing.
- Stretches should start gently and should never be painful.
- It is important to breathe normally throughout.
- Often, the stretch can be extended on an outward breath.

To extend your use of stretching as a training aid for flexibility development beyond this level, you will need to take part in further training, partly for health and safety reasons.

1. Lower back:

Lie on Back…hands behind head….knees raised…. press lower back against floor …hold for 10"……. relax….repeat 3 times.

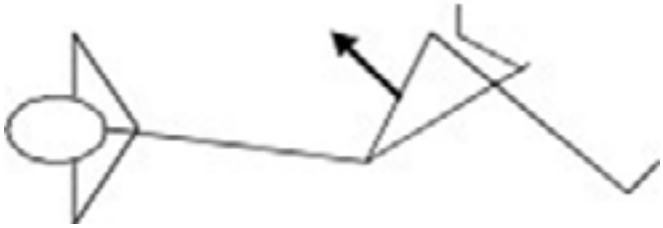
2. Quads/hamstrings Lower back

Hip extensors gluteus maximus and hamstrings

Lie flat on back…legs out straight…grasp right leg below knee and pull up to chest…hold 10" …relax… Repeat with other leg…. repeat also pulling knees across towards middle…..now repeat with two legs together and bring head up to knees.

3. General back

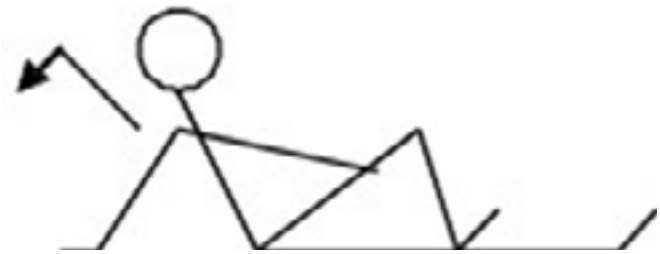
Hands behind head….elbows on floor….legs raised…right foot over left knee and push down to right….elbows remain on floor…hold 10"… repeat with left foot over right knee….repeat once more each side



4. Lower back, Hamstrings
Spinal erectors and hamstrings

Sitting...legs 10cm apart and flexed 30 degrees, let legs relax and flop. Lean forward as far as you can, keeping head up, looking forward... hold for 10”... repeat x 3 stretching further each time.

5. Lower back, Upper back
Internal and external oblique Spinal erector piriformis



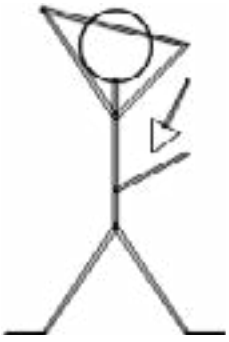
Sitting position…left leg straight out, right leg raised…foot beyond left knee…turn to right to face behind you…hold 10”…Repeat others side….repeat twice each side rotating further each time. N.B. Rotate to side with raised knee

6. Side, Legs
External oblique latissimus dorsi serratus anterior

Standing legs apart. lean to side…hold 10”.. Repeat other side…repeat with top arm leaning across and over with lean. Check leaning is sideways not forward…twice each side

7. Biceps, Shoulder
Latissimus dorsi and teres major
Grasp right elbow with left hand….push right elbow towards your left shoulder…. hold 10”… grasp left elbow with right hand and push towards right shoulder….hold 10”… repeat twice each side, going a little further each time.

8. Triceps, Shoulders
Triceps brachii and latissimus dorsi
Raise right arm then reach down back with elbow raised….raise left arm and push right elbow and arm further down back…. hold 10”. Repeat twice each side extending stretch.



9. Shoulders, Arms, Back

Arm swinging, right arm forward close to head…left arm forward… left arm back… right arm back… two arms forward…two arms back….left arm forward, right arm back……reverse

10. Quadriceps, Hamstrings, Groin

Slide left leg back until straight…left leg forward with knee at 90 degrees

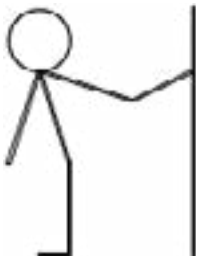
Stretch out back leg…hold 10"…keep knee behind foot… repeat twice each side.

11. Quadriceps, Lower Leg

Balance on left leg...grip right foot and pull up to buttock... hold for 10 seconds....repeat twice on each side.

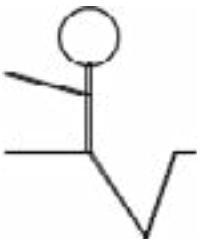
12. Upper back, Shoulders

Face away from a wall….place one hand on wall immediately behind you….stretch…repeat with other arm…repeat twice each side..

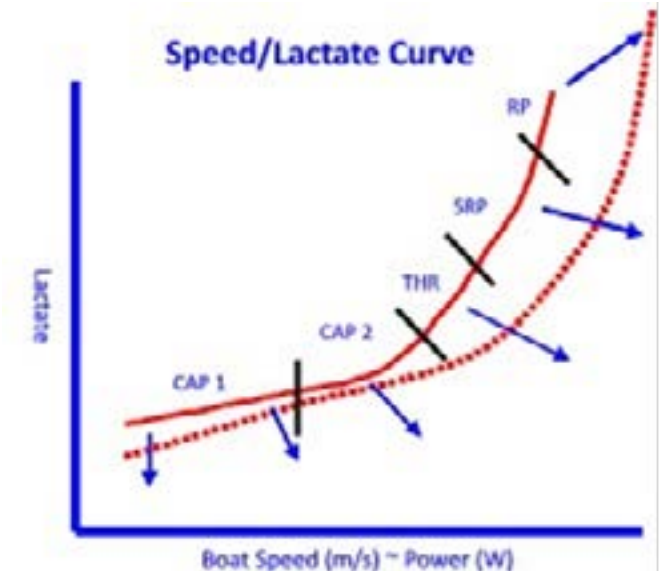


13. Pelvic stability

Kneel close to a wall facing away from it…put right foot up wall behind you…push other leg forward until lower leg is vertical…hold 10"… repeat on other side…repeat twice each side.



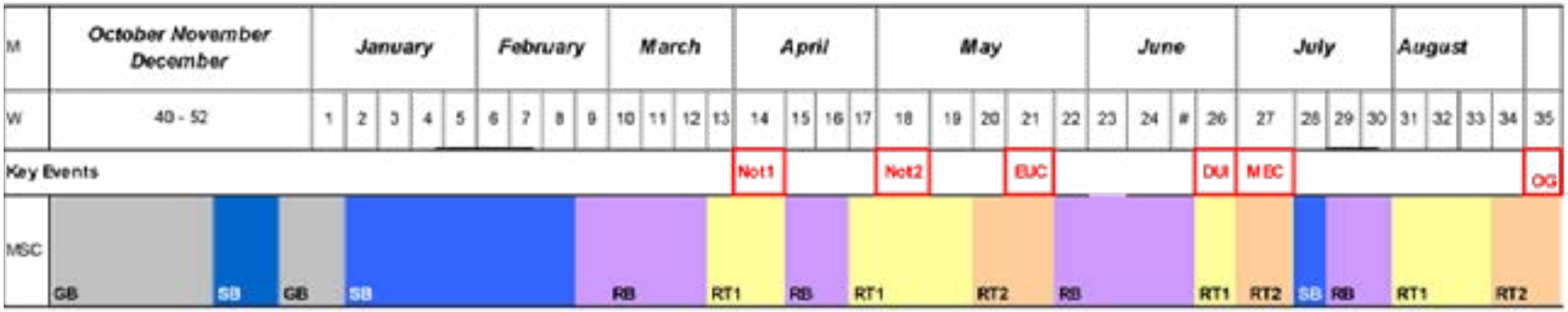
Racing Training Theory



A periodised and progressive training programme will move the speed lactate curve as shown by the arrows. The dosage and intensity of the training will be defined by the area of the curve to be improved..

% Max 1000m Speed	% Max HR	Effect	Feel
CAP	60%	Increased glycogen stores and muscle fibre recruitment. More efficient fuel utilisation	Moderately Comfortable, Intermittent conversation
THR	80%	Improved metabolic efficiency and lactate clearance	• Slightly uncomfortable, breathing heavily • More concentration
SRP	90%	Improved cardio cardio-pulmonary function, capillarisation, and aerobic, enzymes	Hard, breathing very heavily but under control
RP	100+%	Improved peak oxygen consumption	Painful, breathing extremely hard Lactic Acid accumulation
PRP (LT(	Max pace to completge session	4-8 x 250m (Short Recovery) – Lactate Tolerance; 6 x 100m (Long Recovery) Lactate Peak Power	Very hard, muscular pain high levels of lactate gain
MRP (A-LT)	Max Race Pace	2 x (5 x 10 10") (Full recovery) – Creatine Phosphate Maximum Power	Fast and powerful, but physiologically comfortable

Great Britain Sprint Racing Team - Periodisation 2003-2004



GENERAL PREPARATION PERIOD	PRE COMPETITION PERIOD	COMPETITION PERIOD	
GB - General Base Core Aerobic Pace General Endurance Development Improve technique Land based training	**SB - Specific base** Threshold Specific Aerobic Conditioning Crew Boat Work	**RB - Racing Base** Aerobic power Sub Race Pace Technique Improvement Crew Boat Work	**RT1 - Racing Tolerance** Aerobic-anaerobic power Peak Race Pace Speed endurance Race practice Crew Boat Work **RT2 Racing Tolerance** Maximum Pace Max speed & power development Race Pace

Creating a race plan – a keystone of mental strength by Ian Wynne

Key Points:

- A strong well prepared race plan can be the key to being mentally strong and producing your best performances.
- A race plan is under your control.
- You can race against yourself – and avoid racing against other people who are outside your control, outside your boat
- Winning in a race can primarily be about beating yourself and racing according to your plan successfully.
- It gives security, especially in non ideal conditions.
- It can be the basis for a productive post race debrief.
- It has to be YOUR plan as a paddler.
- A good race is doing what you know you can do and have prepared for.

How could paddlers achieve this?

- Start to introduce mental skills as early as possible to all young paddlers
- Create situations where they have to test themselves and decide how they are going to react – club time trials, races, events, training situations
- Support them to decide "am I best at racing when I am nervous, relaxed, 50/50, fast starting, even paced etc?"
- Gradually start the process of racing and practising racing in a structured way once the paddler is competent.
- Gear the process to the athlete and the current training and competition needs –
- e.g. with Lightning paddlers, maybe 2000m should be their planning distance. With a Train to train phase paddler, with their focus on aerobic development maybe it is a 5/10km paddle.

- Moving into the sprint preparation area.
- Remember athletes are trying to find the fastest way to get from start to finish – this is their race plan.
- Remember that races are usually won not by accelerating past others but by decelerating less than others.

E.G. Training to have a rock solid 500m race plan:

- Work on splits of 500m = 5 x 100m splits.
- Look at breakdown of your goal - e.g. a 2.00 min 500m. Each 100m will need to be at 24" at least. If you can't do 100m in 24" the goal is unreasonable to achieve.
- If 1 x 100m is tested and achieved in 24" then the paddler can rest and work to do another in 24".
- Then progressively cut down the rest between the first and second 100m until you can do a straight 200m in 48" then 300m in 72" etc. Start with rests between the 100m and gradually eliminate the rests.
- Expand this until you can do 5 x 100m at this pace with no rests.
- This is your race plan, you have practised it, you know how it feels in each 100m you CAN do it.

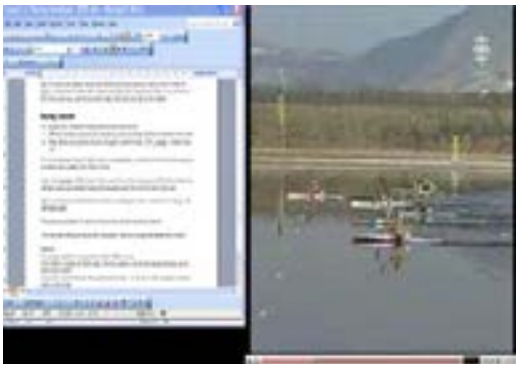
- This is your body physiologically learning what it has to do, your brain getting feedback about how it will feel in training and therefore in racing. There is an element of “conditioning” as per Pavlov.
- If you race well to this plan you will do 2.00min for 500m.
- If you do not race well you will know where it was that it went wrong,
- Was it a slow first 100m, or a too fast 200m that blew the race apart?
- This process could drive your training for 3 months in the summer. If the initial 2.00 min goal was reasonable then there will be a steady progression towards that rock solid 500m.
- If you cannot achieve the whole target in training it will inform your training plan to reach the level you want.

N.B. Of course your athlete may decide that the best way to get from start to finish in 500m for them, is a faster first 2x100m with a slower next 200m and a steady final 100m. You can work on this in the same way, and find out which really is the best race plan for the athlete

Racing Yourself

- A good race is therefore doing what you know you can do.
- Different conditions become less disturbing as the knowledge and feel of intensity is the same
- Helps devise and practise all sorts of triggers to performance, 100’s, strokes, marker points etc. This is the approach that Ian Wynne uses in his preparation. It assumes for him that even pacing is his fastest way of getting from Start to Finish.

Adam Van Koverden in the 1000m final in Athens 2004 went from 1st by a long way at 250 to 3rd at finish line with Erik Larsen and Ben Fouhy both ploughing past him in the last half of the race!



N.B. You have to be careful that the race plan is pushing your limits – could you do 1.39, or 1.38 with faster splits?

This process could take 10 weeks or more or even several seasons to achieve. This may seem difficult to set up with a big group – easy for a single elite athlete with a coach.

However:
For younger paddlers in a group this could be 2000m racing.

If the 2000m is divided into 500m splits, then the paddlers can become equally internally secure about racing 2000m. It could be a club 5k time trial with pacing marker points – 1k, 2k, 3k, 4k with paddlers having a watch on their boats.

1000m split into 5 x 200m or 4 x 250m and the time splits goals worked out.

If race distances are split up at any level and accurately marked and timed, then this feedback information from the coach can build confidence and self regulation of training, along with success and progression for the athlete.

Feedback from the coach can become much more constructive.

If the athlete notices that the last 100m is slower than wanted, and the session/race has been videoed it will be possible to analyse exactly what is going wrong.

Can you be creative and make this work for your paddlers?

There is an opportunity here for challenge, improvement and feedback here much more secure than the occasional race.

WIN WIN Racing.

- If you race against your own race plan and yourself there can be success, reward achievement in every race.
- Coming 8th in a heat could also mean that you had a great race and achieved exactly what you were capable of, and you know it!
- Coming 1st in a race might be good, but it might also be that only 0.8 of the race went well and there is still room for improvement – go for the satisfaction and the challenge of getting the last bit better.
- The 8th place might be a bigger "Win" than the 1st place.

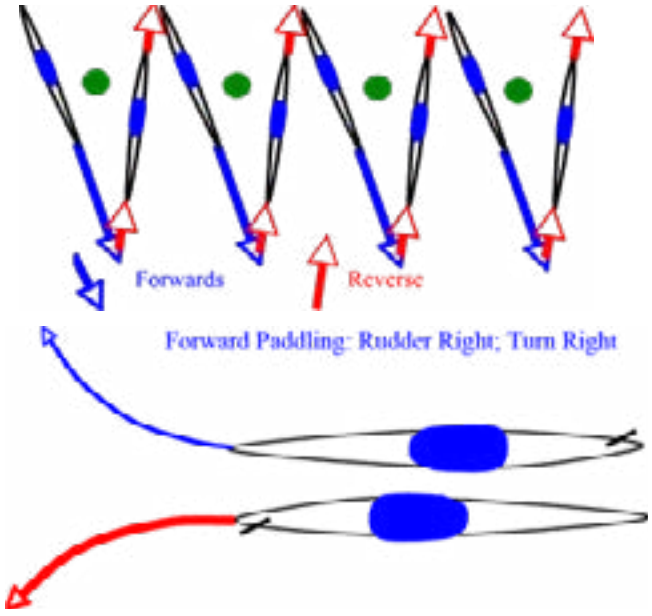
How many times do even top performers win over their career? Not that often!

There has to be a success ratio better than the external criteria success. It needs to be internal success for the athlete.

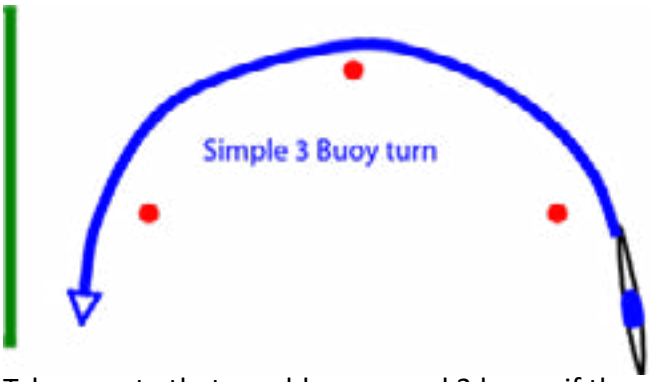
With this racing, preparation and training becomes a much more motivating matter.

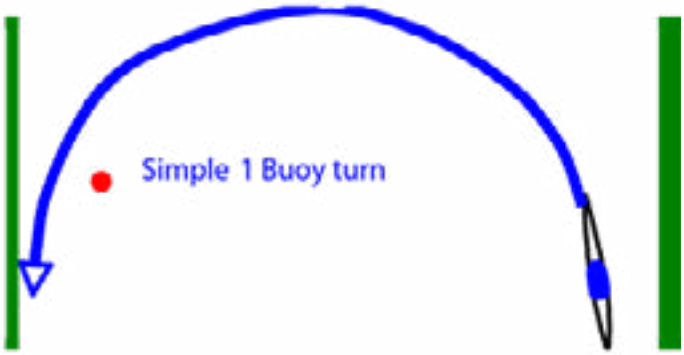
This is making possible a win win situation every race, every training session.

Cross Stream Challenge Start Practices.
Use a line of buoys, posts in the water, single slalom poles and practice going forward past a buoy and then reversing into the next gap, keeping the boat as straight as possible when going through. Keep repeating along the line of buoys.

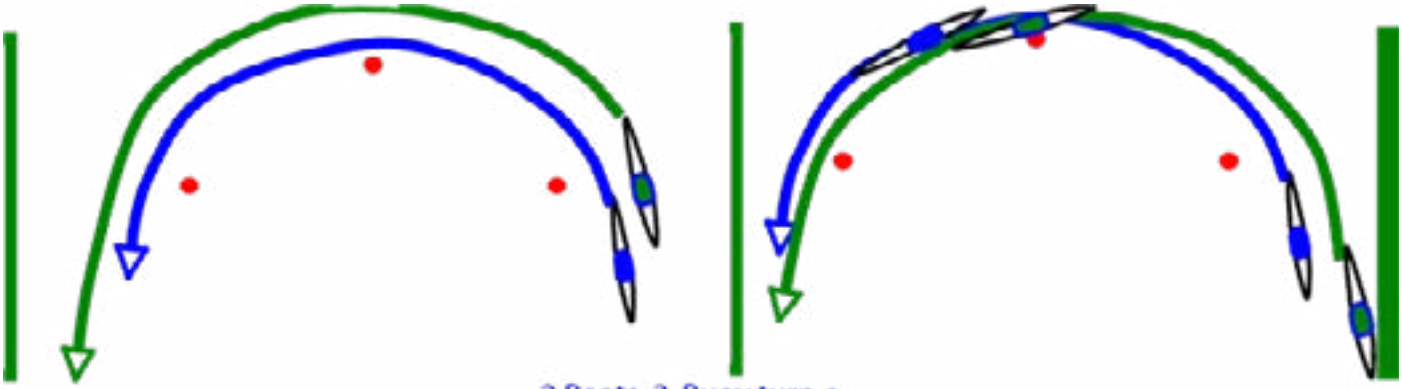


Cross Stream Challenge Turning Exercises:





Take a route that would go around 3 buoys if they were all there, this will ensure the exit from the turn is as close to the buoy as possible and pointing the right way. It would also avoid crashing into the river bank or other craft on the turn. The flatter the route of the turn the better. Go wide on an approach and close to the marker on the exit if there is any doubt.

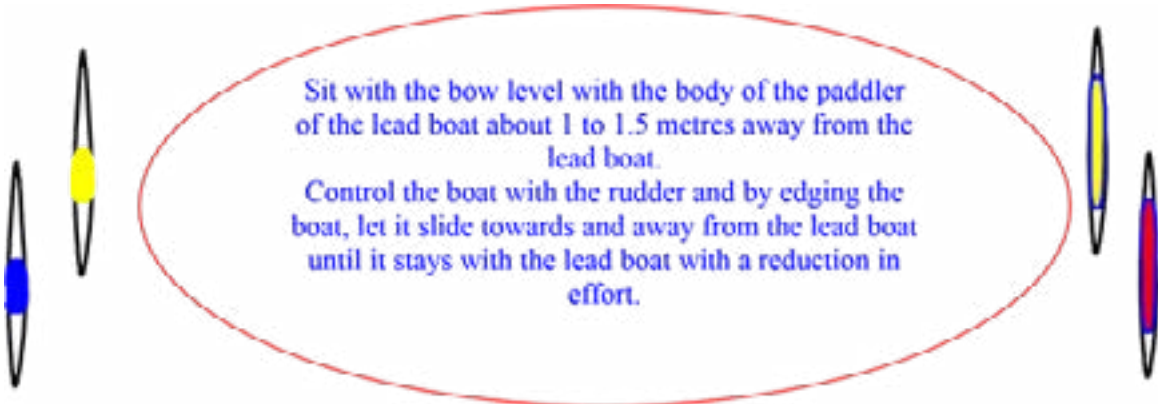


If there are two boats or more going for a turn, then tactics start to come into play, depending on where the boats are on each others wash, then different tactical approaches might be needed. If it is fairly simple with the lead boat on the outside of the turn and the inside boat sitting on the wash, then it would be quite comfortable for the outside boat to paddle around the turn leaving enough room for the boat on the inside to negotiate the buoys. It would be quite easy for both boats to stay in control and get around quite easily.

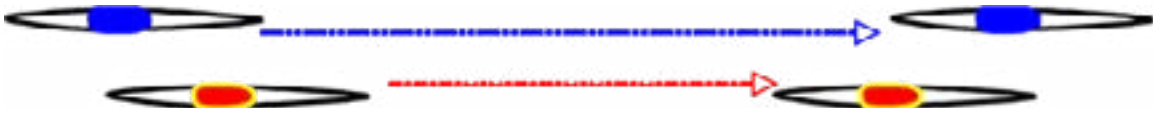
If the lead boat is on the inside then the following boat on the wash, depending on how comfortable they are, could take the option of cutting across the back of the lead boat to the inside of the turn, this would be particularly important if the last part of the turn brought the outside boat very close to a bank or other obstructions.

Care should be taken not to collide with the paddles or craft of other paddlers as this could lead to both boats being slowed right down or ultimately disqualifications if the collision is serious.

Wash Hanging Practices



Taking the Lead on a Wash

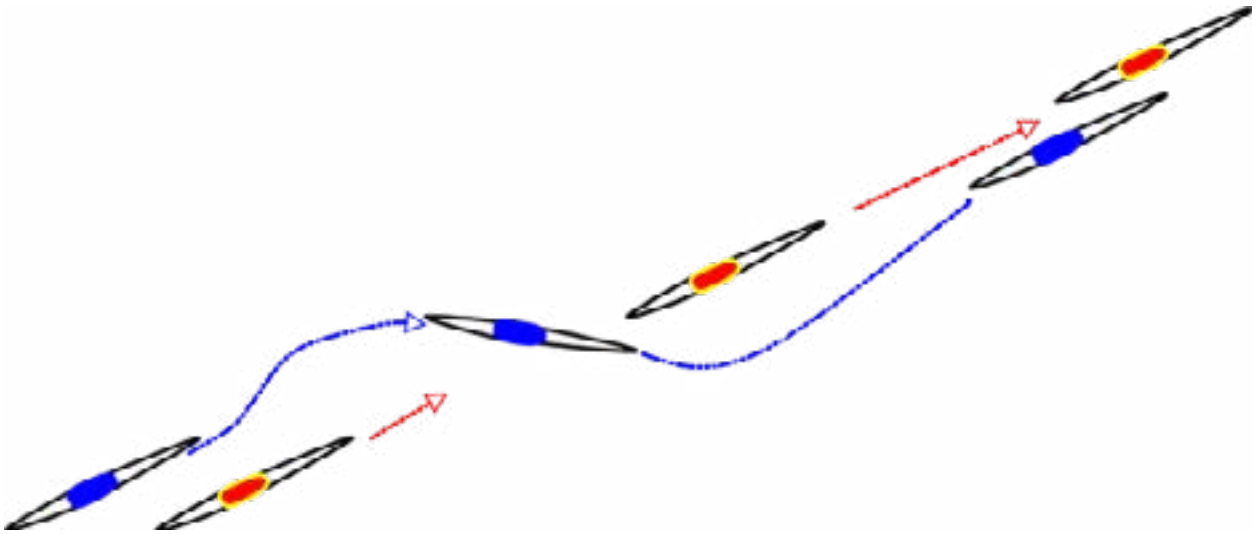


Come off the wash slightly by steering away from the lead boat, and then accelerate the boat to ease past the lead boat. Drop back to a comfortable pace once there is about a ½ boat length lead between the two boats.

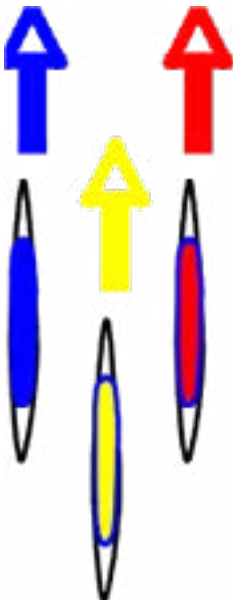
Changing sides

Steer slightly away from the lead boat, then drop back and steer across the stern of the lead boat, take care not to collide, and then paddle out over the waves on the opposite side whilst steering back toward the lead boat.

Get ahead of the wave on the other side of the lead boat then drop back until the following boat is comfortably sitting on the wave on the new side, ease off and enjoy the ride.

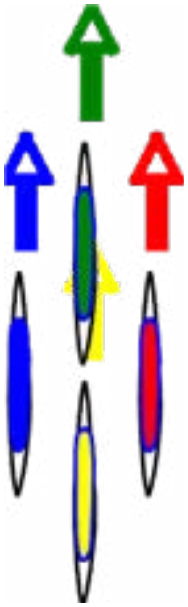


Finding the V Wash
The two lead boats need to be level and about 3 meters apart; this creates a V with the bow waves from each boat. This is a very good spot to sit and recover before the next effort; it is also a good way of helping the slower paddlers along in the session.



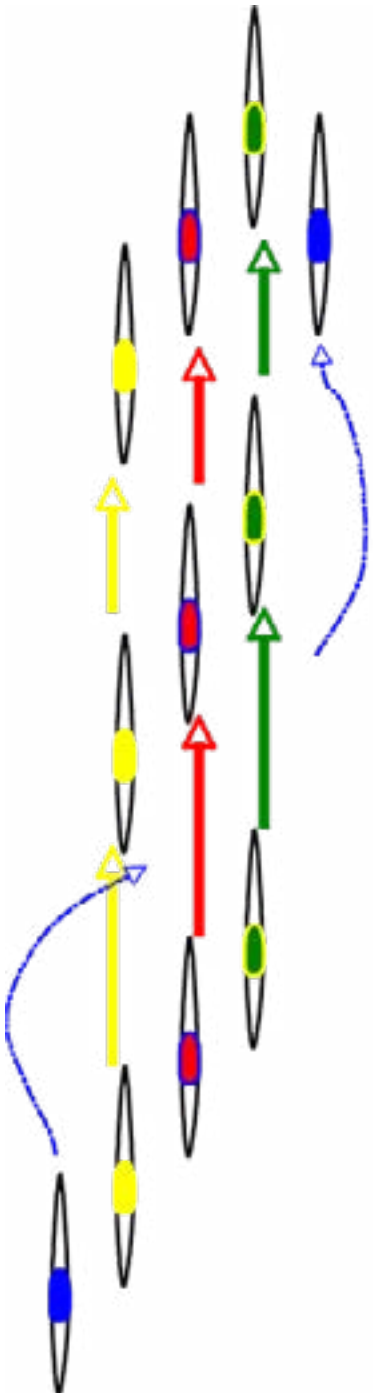
Once the following boat is nicely settled, the two lead boats working together can help out by moving apart to drop the V back or together to move the V up, this will assist the following boat to keep in position and stay on the wash.

Completing the diamond
Sitting on the V wash in a group of 4 making up a diamond shape is probably one of the easiest places to paddle when the course is straight and paddlers are prepared to work together.

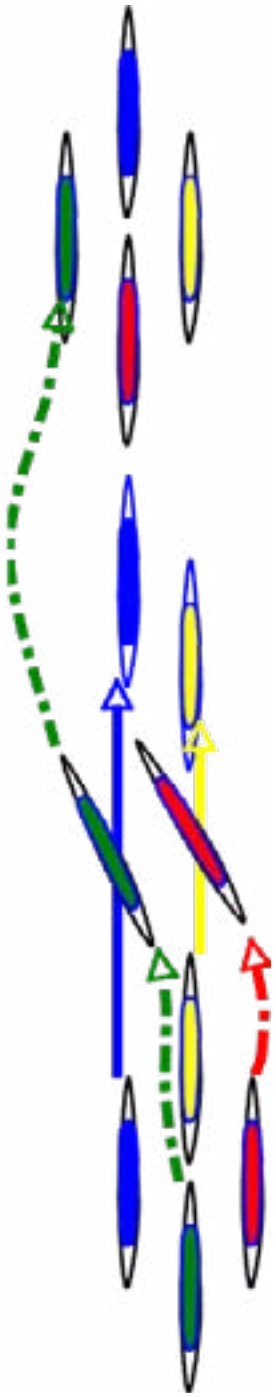


This position however does have its disadvantages. A paddler has to drop back and come around the back to gain a position of tactical advantage. It is very easy to get 'boxed' in and be at the mercy of competitive leading paddlers.

Round the Back and Up the Other Side

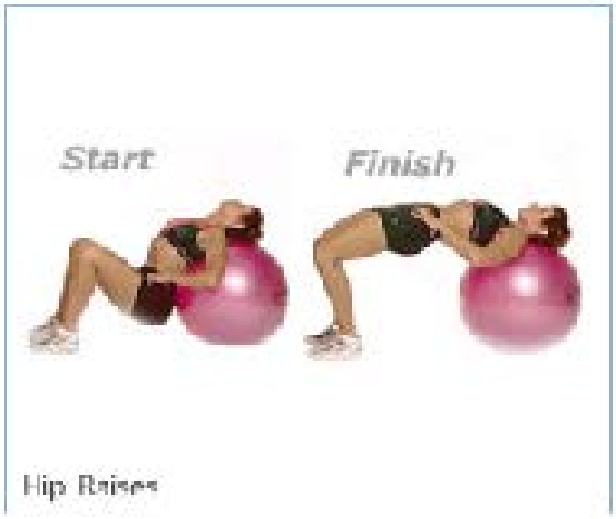


Rotating Around the Diamond

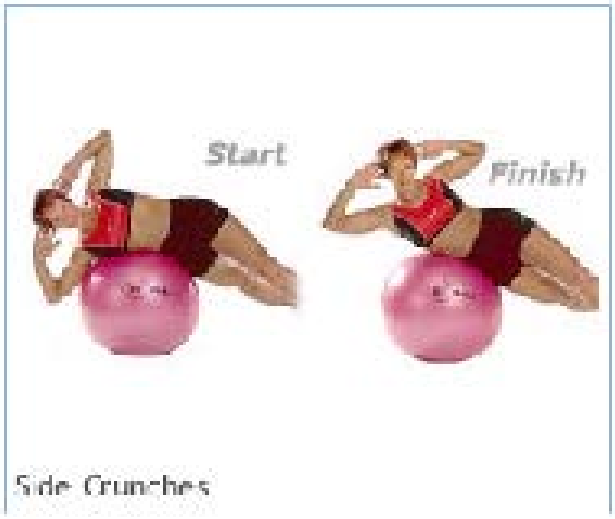


Get the formation set up and change places around it, make sure you pass behind other boats and avoid collisions.

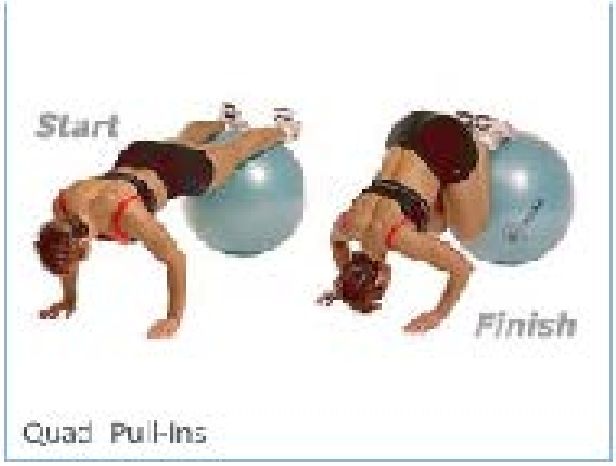
Core Stability Exercises



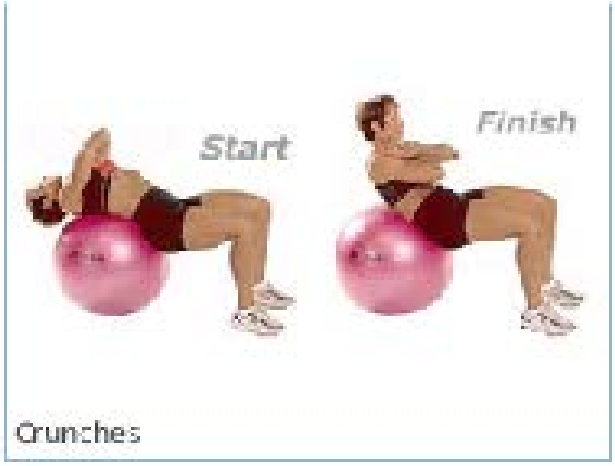
Hip Raises



Side Crunches

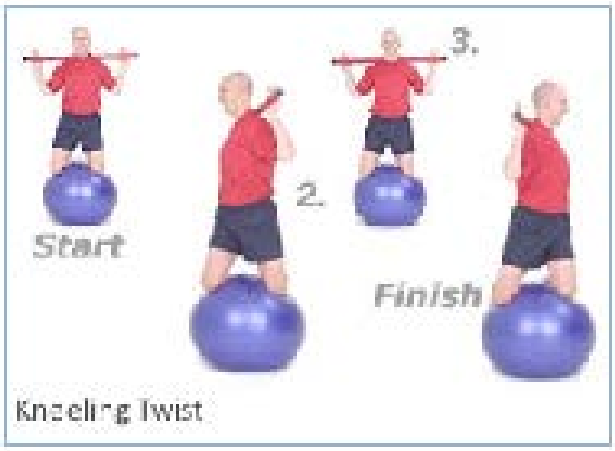


Quad Pull-Ins



Crunches

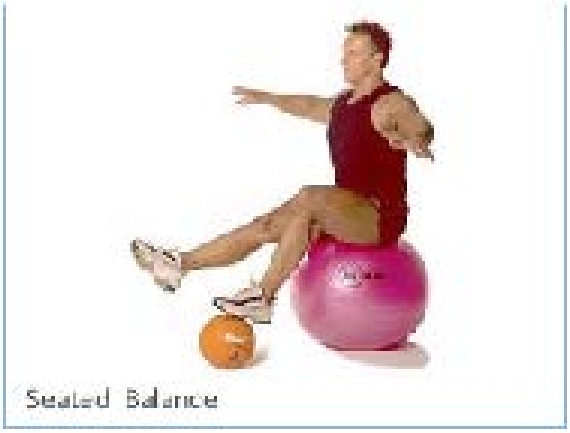
Superman/woman



Kneeling Twist

Side Flexion with Medicine Ball

Crunch and Throw to Partner

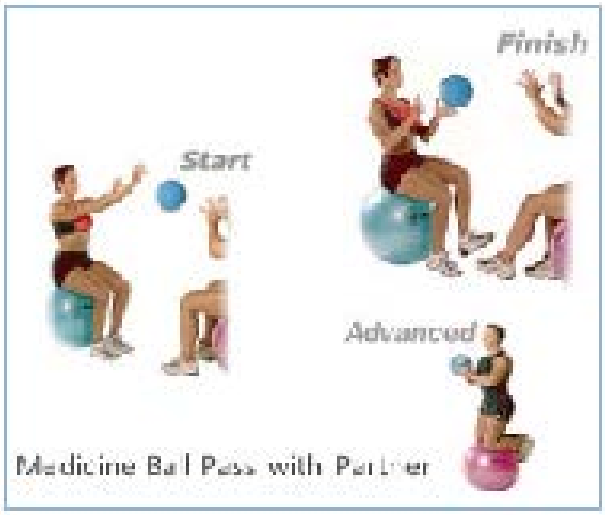


Seated Balance

Lunge & Crossover

Reverse Abdominal Curl

Squat & Press Medicine Ball

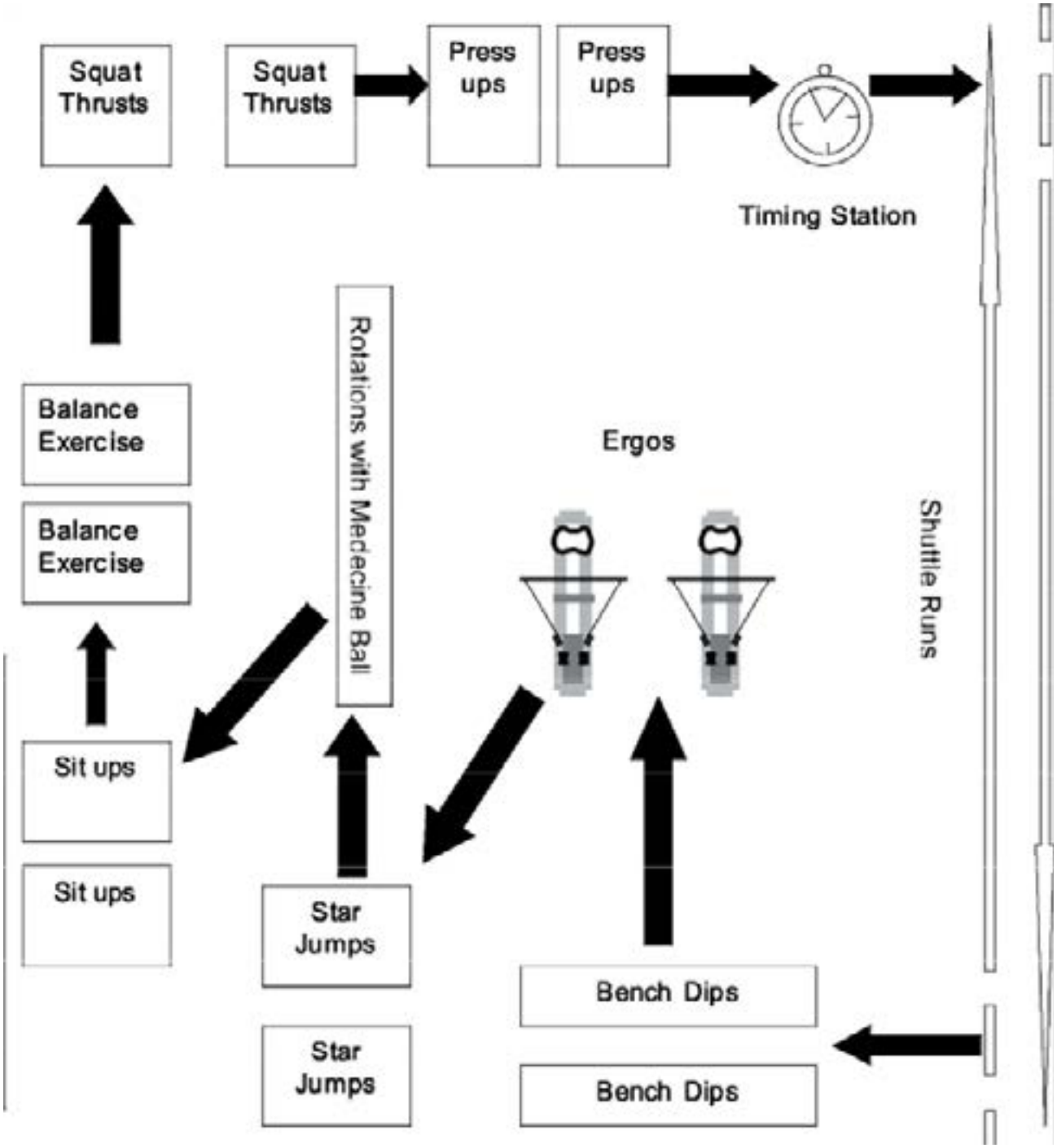


Medicine Ball Pass with Partner

Russian Twist

Wood Chop with Medicine Ball

Circuit Training Layout



Paddles

A problem

It has become clear to many of the senior coaches that younger paddlers are often using paddles that are too long or have too large a blade area.

Very occasionally they use paddles that are too small.

This can also be a problem with some senior paddlers.

There are paddles that are passed down within the club system or are bought second hand that may seem good deals but are inappropriate for young paddlers.

A solution

To help coaches, paddlers and parents make decisions about which paddles to buy or recommend, we have drawn up the following guidelines.

There is much more information available about Brasca paddles than any other make, hence we have used them as the basis for comparisons.

We would like to make clear that these guidelines do not recommend any particular brand of paddle, they merely give a comparison between them in terms of size.

Paddlers and coaches will have to make up their own minds about which brand to buy.

Important Points:

- If in doubt paddle size should be smaller than larger.
- If in doubt, paddle length should be shorter than longer.
- Too long paddles or too large blades means the paddler will not be able to paddle with good technique and may change to bad technique to cope with using them.
- Too long paddles means the paddler will never be able to train explosively or with a high enough stroke rate. This will militate against their desire to go fast and hinder development.
- Girls will usually need shorter paddles than boys once in their teenage years.
- Shafts can always be shortened by cutting and inserting a sleeve in or on the shaft, which can then be adjusted from time to time as a paddler grows.
- Using waterproof heat glue to connect shafts means they can be easily adjusted.
- Paddles can be bought with split and adjustable shafts or adjustable collars, but some adjustable shafts have more carbon in them and are therefore much stiffer.
- Younger paddlers need to have paddles with lower carbon content than senior paddlers. A mix of carbon and glass means that there is more shaft flexibility and less chance of problems with tendonitis/RSI.

Paddle Length:

- The right length is what is right for the individual paddler.
- A good basis still, is to stand upright next to the paddle, with an arm reaching up. The fingertips should just be able to roll over the top of the blade.
- With paddles held above head, the starting point for grip position is to have upper and lower arm at 90 degrees, power lifting style. Then adjust for your individual paddler to what feels right for them.

Kayak Paddle Comparisons and Information

Please note that the table below makes absolutely no recommendation of one brand of paddle over another. That decision is for coaches and paddlers to make.

Reccomended for this	Size	Bracsa Range	Notes	Lettman	Canoesport/ Legend
Children aged 8 – 12	615 cm2– 655 cm2 635 cm2	Bracsa “Kid” Bracsa *Children*	Parallel edge blade (under 65kg) Reduced blade size of Br I. or IV. , tear drop (under 65kg)		Various East European imports
aged 12-14 <65kg	635cm2	Bracsa “Children”	Reduced blade size of Br I. or IV. , tear drop (under 65kg)		Flight 3 small’
aged 13-16, lighter women	735cm2 725cm2	Bracsa IV min (Sprint, Marathon, Recreational Construction) Bracsa VII. min	Small version of Br I, tear drop blade, Extremely tear drop blade (for strong catch)	Lettman Nordick small Parallel, long	Canoesport “b4” Legend “Wildwater “ Propulsion Nylon German style narrow blades
Older junior men, women, lightweight men or marathon paddlers, recreational paddlers	765cm2 745cm2 755cm2 767cm2	Bracsa IV max (Sprint, Marathon, Recreational Construction) Bracsa VII. max Bracsa III. Bracsa VIII. min	Reduced blade of well known Br. I. tear drop bladextremely tear drop blade (for strong catch) Parallel bladesParallel long narrow blade	Lettman Nordick Med. Parallel –long blade	Jan-Tex Beta (med) Similar as B.IV. Propulsion “Mid” Legend ‘Champion’
Senior men Strong jun. men	805cm2 815cm2 765cm2 837cm2	Bracsa I min. Bracsa II. min Bracsa VI. min Bracsa VIII. max	Original Bracsa paddle most widly used, tear drop blade Similar to Bracsa I. but it has increased blade pitch Extreme tear drop blades		Jan-Tex Beta(large) Tear drop Gamma Turbo , tear drop Propulsion “Full” Canoesport “b 1” Legend ‘Sprint’
Strong senior men	840 cm2 835 cm2 780 cm2	Bracsa 1 max Bracsa II. Max Bracsa VI. max	Larger version of Br I Larger version of Br II.	Lettman Warp xl	

Relationship of Kayak Paddlers Height and Paddle Grip Distance

Paddler height (cms)	Suggested Paddle Grip Width (cms	Paddler height (cms)	Suggested Paddle Grip Width (cms)	Paddler height (cms)	Suggested Paddle Grip Width (cms)
155	61.8	169	67.1	183	72.4
156	62.2	170	67.5	184	72.7
157	62.6	171	67.9	185	73.1
158	63.0	172	68.2	186	73.5
159	63.3	173	68.6	187	73.9
160	63.7	174	69.0	188	74.2
161	64.1	175	69.4	189	74.6
162	64.5	176	69.7	190	75.0
163	64.8	177	70.1	191	75.4
164	65.2	178	70.5	192	75.7
165	65.6	179	70.9	193	76.1
166	66.0	180	71.2	194	76.5
167	66.3	181	71.6	195	76.9
168	66.7	182	72.0		

Measurements taken from 3rd finger of each hand in normal position on paddle shaft.

Paddler height (cms)	Suggested Foot Bar distance (cms)	Paddler height (cms)	Suggested Foot Bar distance (cms)	Paddler height (cms)	Suggested Foot Bar distance (cms)
155	77.5	168	85.3	182	93.8
156	78.1	169	85.9	183	94.4
157	78.7	170	86.5	184	95.0
158	79.3	171	87.1	185	95.6
159	79.9	172	87.7	186	96.2
160	80.5	173	88.3	187	96.8
161	81.1	174	88.9	188	97.4
162	81.7	175	89.6	189	98.0
163	82.3	176	90.2	190	98. 6
164	82.9	177	90.8	191	99.2
165	83.5	178	91.4	192	99.8
166	84.1	179	92.0	193	100.4
167	84.7	180	92.6	194	101.0
		181	93.2	195	101.6

Measurements taken from lowest part of the seat to the middle of the foot bar.

Data from: Barney Wainwright, WC Sports Science, 2004.

Race Tips for Paddlers

By Mick Nadal

Race Tips – adapted from Paula Radcliffe's 'Tips for Runners' in Athletics Weekly.

Paula Radcliffe is well known for good build ups and leaving nothing to chance. To help you get the best from your races, particularly the longer ones like Trent K2, Waterside, or Frank Luzmore, here are a few adapted Tips for Marathon Paddlers:

Race Tips for Paddlers

- After your training build up, ease down and get plenty of sleep the week before
- Make sure you have paddled in the kit you want to use for the event. Do you need to alter it, cut labels out, use Vaseline on the bits of your body where it chafes? What footwear is best for the event?
- Runners only have shoes to "road test," but checking footrests and seats for position and comfort for paddlers is vital.
- Make sure your boat is ready at least 2 days before if possible, that way there is time to adjust or even repair it. Check your paddles, drinks system, spraydeck and/or pump for being in good repair too.
- Make sure you have a high carbohydrate meal with a little protein the night before. Only eat something that you know is reliable for you at breakfast.
- Check all wing-nuts are tight when you get to the venue, as vibrations during travel can loosen them.
- Keep your fluids up before the race, but don't over do it. On long journeys take carbohydrate snacks.
- Remember that unlike running there are no feeding stations. Either arrange with supporters to feed you (fluids are most important) or carry a drink that you have tried out in training.
- Visit the toilet before the start – there are no facilities on most races and stopping loses places.
- Keep sipping even in cold weather. Your body is dehydrated before you feel thirsty. Dehydration means that body and brain work less effectively. It makes recovery more difficult and you may feel listless and have a headache.
- If you are going to be waiting around at the start, make sure you have some way of keeping warm – something you can take off, or clothing that acts as a wind break and you can paddle in.
- Take the time to warm up before the start.
- Remember you may need to pace longer time trial type events and not fly off the start. (Events like Waterside.)
- Enjoy the event – scenery, spectators who shout to you.
- When you finish, remember that to recover most effectively you need to eat and drink adequately. Most events involve a drive home – make sure you have planned well and have enough of both with you.
- Boats don't load themselves. Runners just pack their kit and go, paddlers can't. Do it before you stiffen up and become listless – the driver may well have raced too and they have to keep going until you are safely home, so don't leave it all to them!
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Acknowledgements

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