CAN ROW

Coach's Handbook

ROWING CANADA AVIRON

Canadian Heritage
Sport Canada

Patrimoine canadien

ROWING CANADA AVIRON

VISION 2020

To be the LEADING ROWING NATION in the WORLD.

Mission

To BUILD, DRIVE and INSPIRE growth and excellence within Canada's rowing community.

Values

As members of RCA, we recognize the following principles to guide our decisions and behavior:

Excellence
We are committed to do our best in all we do.

Integrity
We are honest, respectful and accountable.

Community
We are a community of partnerships that is connected and passionate about the sport of rowing.

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Introduction

Learn-to-Row Instructors and RCA Coach Handbook

Providing RCA Coaches and Learn-to-Row Instructors with the practical tools and tips necessary to teach new rowers and guide them through the Long-Term Athlete Development Model (LTAD) to become rowers for life!

Welcome to the Rowing Canada Aviron CAN ROW handbook. We've put this handbook together to ensure that new rowers of all ages can learn the essential skills for fun and injury-free rowing, and become "rowers for life". It's your go-to pocket guide – easy to pack, easy to flip through and easy to read.

The handbook supports RCA's LTAD model and focuses on the needs of new rowers in the Learn to Train, Train to Train and Competitive for Life stages. A primary focus for any new rower is establishing or improving physical and rowing literacy, no matter their age.

In this handbook we've combined material from our existing RCA resources: NCCP Learn-to-Row Instructor and NCCP RCA Coach; Journey 1-2-3; Skills Event; LTAD Plan and Competition Review. We've also integrated new information in areas like nutrition, life skills, para-rowing, boat handling, coxswains, dryland warm-up, and training to improve physical and rowing literacy.

The Learn-to-Row Instructors and RCA Coach Handbook provides practical "skills and drills" information to reinforce RCA Technique, giving you tips and tricks to develop technically proficient rowers. You, our NCCP coaches, are important to the future of rowing in Canada and our goal is that this practical information will help your ongoing development and that of the rowers you coach. We hope all of our clubs, coaches and LTR instructors will find this guide useful in their programs. We hope, too, that the handbook will help you realize the benefits of introducing new participants to our sport in an engaging and safe manner while instilling consistent standards for development within our Canadian rowing community.

RCA would like to thank our many contributors for their knowledge and expertise in bringing the RCA CAN ROW Handbook to life:

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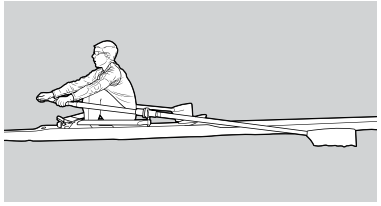
Use the manual often, and use it well. Everyone CAN ROW…and with your enthusiasm, leadership and dedication to excellence in coaching, we'll create a cross-Canada mosaic of skilled rowers!

Wishing you an excellent coaching experience,

Rowing Canada Aviron

Coaching New Rowers

Carolyn Trono



The first 18 months of a rower's career are probably the most important and will impact how they will progress in rowing, either in pursuing rowing excellence or a rowing-for-life pathway. The coach will have an impact on the rower's direction and retention in rowing.

In the early stages of rowing, coaches must teach good rowing technique but also create opportunities to address physical literacy with new rowers. Canadian Sport for Life defines physical literacy as "the combination of mastering fundamental movement skills and fundamental sport skills. It helps children involve themselves in and react to physical activities going on around them. Most skills require a series of developmental stages. If a stage is missed, development can be negatively affected."

For coaches to enhance the physical literacy of their new rowers, you must include fundamental movement skills and multisport participation into your lesson plans. This should include activities that incorporate agility, balance, coordination, running, jumping, catching and throwing. Furthermore, and particularly for young rowers (approximately 11-16 years of age), participation in complementary sports is extremely beneficial to their long-term development. These complementary sports could include cycling, swimming, cross-country skiing, running or speed skating.

As a late-entry sport for older individuals, rowing provides a unique challenge for coaches. You will need to assess your rowers' fundamental movement skills and their implications for injury-free rowing, as well as supporting your rowers' ongoing involvement in rowing and other sport activities.

Below are guidelines to follow in the Learn to Row and Learn to Train Stage

Enhancing Physical Literacy (ages 12-15)

- Clearly identify what it is about your program that emphasizes physical literacy.
- Recognize that your participants may be early, average or late maturers, and that this will impact on their skill training window.
- Pursue multisport participation: Are there other activities near the rowing club that provide another activity, either on land or in water? Could any of these be incorporated into your program/camp?
- Design warm-ups that emphasize physical literacy.
- Change things up with small-boat rowing (sculling).
- Include on-water activities that emphasize balance, coordination and good technique.
- Competition includes the RCA CAN ROW Skills Event and not racing.

Enhancing Physical Literacy (ages 16-25)

- Design warm-ups that emphasize physical literacy.
- Use complementary sports for cross-training (e.g. learn to cross-country ski, run, cycle, etc.).
- Incorporate small-boat rowing (sculling) into your practice.
- Include on-water activities that emphasize balance, coordination and good technique.
- Competition includes the RCA CAN ROW Skills Event and not racing.

Enhancing Physical Literacy (adult and older rowers)

- Warm-up and on-land sessions should emphasize balance and coordination.
- Include on-water balance drills.
- Incorporate small-boat rowing (sculling) into your offerings.
- Use the RCA CAN ROW Skills Event – not racing as the competition.
- Broaden your knowledge of coaching the older athlete, and be sure to give consideration to any pre-existing conditions.

Remember, all coaches should be at least Learn-to-Row Instructor trained. If you're doing the RCA Movement Screen as part of your program, you should be trained accordingly to identify movement strengths and weaknesses. When training older adults, we want to not only avoid injury while rowing but also decrease the risk of injury in other activities as well.

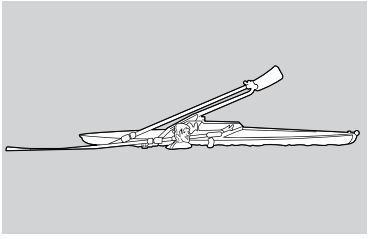
Some guiding questions to help you create the best learn-to-row program possible:

1. How does your program fit into an LTAD-aligned program?
2. Have you studied the RCA LTAD plan for rowing and specifically the information on the "Learn to Train" and "Train to Train" stage?
3. Are you incorporating activities that encourage a well-rounded approach to physical literacy into your program?
4. Is the primary emphasis in your program on developing good technique and rowing skills?
5. Are your rowers encouraged to progress at their own pace based on their skill proficiency?
6. Is there a method to assist rowers to monitor their own progress?
7. Have your rowers learned the fundamental rowing technique and skills before they begin racing?
8. Have rowers been matched with rowers of similar ability?
9. Are all rowers given the opportunity to row in different seats including the coxswain?
10. Have you introduced your rowers to using the different types of equipment (sculling in singles, doubles, quads)?
11. Do all rowers have an opportunity to take on leadership roles?
12. Are your rowers encouraged to participate in other sport activities?
13. Do you encourage your rowers to be creative and make some of their own decisions during practice?
14. Have you provided your rowers with important safety, equipment and training responsibilities that are appropriate for their age and ability?

** Additional information on LTAD can be found at www.canadiansportforlife.ca*

Coach And Rower Safety

Dave Derry, Brenda Taylor



As with any outdoor sport, there is an inherent element of risk in rowing. Safety in rowing means:

- understanding and being able to assess the risks;
- understanding each rower's limits, based on their risk tolerance and skill level;
- understanding the rules and regulations designed to keep rowers safe; and
- being able to handle the boat competently for the conditions.

Both coaches and rowers need to be familiar with Transport Canada regulations, local conditions, and safety procedures and protocols for your boathouse. Coaches and rowers must be aware of their responsibilities for the safety of themselves, others and the equipment.

Coach Responsibilities

The coach is responsible for the safety of ALL rowers in the group. You and your rowers should be aware of the Transport Canada regulations, but in particular the following:

- Coaches are responsible for complying with Transport Canada regulations including carrying a valid Pleasure Craft Operators Card.
- Coaches are responsible for operating the safety/coach boat in a safe manner, in compliance with Transport Canada regulations and with the safety protocols in place at your boathouse.
- Rowing shells NOT attended by a safety craft must carry the correct number of PFDs or lifejackets and a sound-signalling device.
- If operated after sunset, before sunrise or in periods of restricted visibility, unattended shells must also carry a watertight flashlight.
- Rowing shells attended by a safety boat are not required to carry safety equipment, provided the accompanying safety boat is carrying enough PFDs for each person in the largest rowing shell that they are accompanying.

- Rowing shells are required to follow the same "rules of the road" (collision regulations) as coach boats. For a summary with diagrams, please see Transport Canada's *Safe Boating Guide*.
- Persons operating rowing shells and coach boats not in compliance with the regulations may receive substantial fines.

A few other coaching considerations to keep in mind:

- It's the coach's responsibility to assess the conditions and determine whether they feel it's safe for the group or individual to go out. Rowers should never be coerced into going out in conditions in which they do not feel safe. At the same time, however, your role is to help your rowers develop the skills and competence to stretch their comfort zones.
- Coaches will need to provide more direct supervision and assistance for young and/or inexperienced rowers. As rowers become more comfortable and competent on the water, coaches can delegate more of the responsibility for safety to the rowers.
- Coaches need to explain to rowers how the rowers' actions and decisions may affect the safety of others (for example, failing to follow a coach's instructions can put themselves and others at risk).
- Coaches should be familiar with how to assist or rescue crews in trouble.

Your club's safety code should state that coaches must **wear** a PFD at all times, especially when cold-water rowing rules are in effect. It's not enough just to have the PFD in the coach boat. Coaches are more vulnerable when the air/water is cold and they are wearing heavy clothing. If you fall in, you'll find it's difficult to get back into a coach boat. It's important to remember that you, as a coach, are modeling safe and correct conduct by wearing a PFD. (Don't forget to attach the boat's kill switch to your person!)

COACHING TIP

Regardless of the flow pattern at your boathouse, coaches and rowers must understand that they are still governed by the Transport Canada marine regulations. The guiding principle should always be: Look around and don't hit anyone!

Rower Responsibilities

- Rowers are responsible for letting the coach know if and when they feel uncomfortable.
- Rowers are responsible for the safety of the equipment. Rowers must check their equipment before going out to identify basic problems that could compromise their own safety or that of other rowers.
- Be able to explain and follow the on-water flow pattern specific to your boathouse and body of water.
- Be familiar with key safety rules for your boathouse (i.e. sign-in/sign-out rules; hours of on-water activity).
- Understand Transport Canada boating regulations and how they apply to rowing.
- Wear clothing appropriate to the weather.
- Demonstrate the safety position.
- Perform an emergency stop.
- Learn what to do if a boat flips or swamps (i.e. stay with the boat; buddy up; get on the boat etc.)
- Be able to demonstrate how to get back into or onto a boat after flipping.
- Beach the boat safely.
- Be familiar with common local wind, water and weather patterns and how they affect rowing conditions.
- Be able to identify the local conditions under which rowing is discouraged or prohibited at your boathouse.

A Note on Weather

- For coached training groups, the coach is responsible for assessing the weather and water conditions and determining whether it's safe to go out.
- Introduce rowers to the basic local weather and water conditions that affect your decisions, including fog, thunderstorms, ice, strong winds, and rough or cold water.

COACHING TIP

Show rowers how to point their boat into the wind and waves in rough conditions. Explain that the water will be rougher where the wind has had more distance to travel over the water. Waves build as they are pushed toward shore by the wind and as the water gets shallower. For example, if the wind is blowing from east to west, the water will be roughest at the west end of the body of water.

Check www.rowingcanada.org for complete safety guidelines.

Emergency Action Plan (EAP)

An Emergency Action Plan (EAP) is a plan designed by coaches to assist them in responding to emergency situations. The idea behind having such a plan prepared in advance is that it will help you respond in a responsible and clear-headed way if an emergency occurs.

An EAP should be prepared for the facility or site where you normally hold practices and for any facility or site where you regularly host competitions. For away competitions, ask the host team or host facility for a copy of their EAP.

An EAP can be simple or elaborate. No matter what, it should cover the following:

1. Designate in advance who is in charge in the event of an emergency (this may be you).
2. Carry a cell phone with you and make sure the battery is fully charged. If this isn't possible, find out the exact location of a telephone you can use. Have spare change in the event you need to use a pay phone. Remember that 9-1-1 calls are free of charge.
3. Keep emergency telephone numbers with you (facility manager; fire; police; ambulance) as well as contact numbers for the participants (parents/guardians; next of kin; family doctor).
4. Have a medical profile for each participant on hand so you can provide this information to emergency medical personnel. Include in this profile a signed consent from the parent/guardian to authorize medical treatment in an emergency.

5. Make directions to your club available to Emergency Medical Services (EMS) so they can reach the site as quickly as possible. You may want to include information such as the closest major intersection, one-way streets, or major landmarks.
6. Have a first aid kit accessible and properly stocked at all times (all coaches are strongly encouraged to pursue first aid training).
7. Designate in advance a "call person" (the person who makes contact with medical authorities and otherwise assists the person in charge). Be sure that your call person can give emergency vehicles precise instructions to reach your facility or site.

Use the Emergency Action Plan template on Page 15 to create an EAP for your club.

EMERGENCY ACTION PLAN

Club name:
CLUB CONTACT INFORMATION:
Address:
Phone:
Email:
EMERGENCY PHONE NUMBERS:
Cell phone number of
Cell phone number of
Address of rowing club:
Directions to the rowing club:
Address of nearest hospital:
Safe havens on rowing course *(e.g. protected shorelines where boats can wait for help):*
IN-CHARGE PERSON
1.
2.
3.
CALL PERSON
1.
2.
3.

Coaching The Novice Coxswain

Lesley Thompson

It is important for a coxswain to learn fundamental skills at the novice level. As a coach, it's your job to make sure he or she develops along with new rowers. Becoming a good coxswain takes years, just as it takes time to be a strong and technically proficient rower. How quickly a coxswain masters skills may depend on their age, how long they have been in a rowing environment and the amount of time spent in the rowing shell.

Coxswain's Role in the Rowing Program

As a coach, you will want to know where the coxswain fits into your program. Look at your short-term and long-term plans for crew development. Are you planning on having a small-boat focus? If so, you need to determine whether a coxswain is vital to your program and when you will need them to be in the boat. Articulate this to your rowers and coxswains.

Coxswains will gain a fair amount of knowledge by accompanying coaches in the coach boat. They will be observing rowing technique, the execution of workouts, the on-water norms of the program and how you as a coach deliver feedback to the rowers. Eliminate confusion by clearly communicating the time spent in the coach boat and the time spent in a boat coxing a crew.

The coxswain is a member of the crew but is also someone who will be positively reinforcing the coach's direction in terms of technique, training norms and racing strategy. A coxswain is often the liaison between the coach and the crew. This in itself can be challenging for new coxswains. Reinforcing the coxswain's role beforehand with the crew helps to develop positive crew relationships.

Coaching the Coxswain

When you have crews with coxswains on the water, make sure you direct some of your coaching to the coxswain. Give them an objective for the

practice that's specific to their role, such as: "Today I would like you to focus on your steering" (or docking, or backing etc.), or have the coxswain directing the crew through the workout. Give the coxswain feedback after having worked on a given skill during the practice. On-water feedback is valuable as the coxswain has time to make changes and improvements during the workout.

A good coach will try to develop a crew's confidence in their coxswain. Nothing is better than a coxswain making a good call followed by the coach reinforcing the same call soon after. Just as with rowers, if the coxswain needs to work on many skills, it may be advantageous to speak to the coxswain about just one skill on the water; later, off the water, you can let them know about other areas for improvement. Have patience with your new coxswain, just like your new rowers. Encouraging them to develop at their pace is vital. Resist any temptation to get in the boat with your crew. It's often a no-win situation for your coxswain.

On-Land Preparation and Responsibilities

Safety

- Outline emergency procedures for all rowers and coxswains before crews start on the water.
- Point out the flow pattern maps and go over them with your coxswain and crew.
- Teach coxswains how to keep the crew and boat safe on their journey to and from the dock, especially on regatta day, or when there are other boats on the dock. Map out a path to the dock before they have a crew take their boat to the water or back to the storage racks.

Coxswain's Seat

Make sure your coxswain is comfortable, warm and dry in the boat. Ensure coxswains wear the correct clothing (gloves, footwear, hat, sunscreen, sunglasses), and carry a water bottle and perhaps an energy gel.

Coxswain Equipment

Make sure the coxswain is well prepared with the right equipment. This may include a coxbox and perhaps a small kit with tape, wrenches, tape measure, screwdriver, washers, pitch plugs, and spare nuts and bolts.

Coxbox

- Instruct the coxswain on how to take proper care of the coxbox.
- Give your coxswain time to learn and use all aspects of the coxbox. Providing the new coxswain with the coxbox manual promotes independence and motivation to keep coxing!
- Make sure the microphone is in the right place and is comfortable.
- As coxswains progress, they can learn how to time and use the stroke counter and reset buttons. (One example is to start the workout doing the timing from the coach boat while the coxswain also times from their boat. The coach can start with calling the workout pieces up and down with the coxswain eventually taking over this responsibility. This should only take one or two practices to master. They should eventually learn how to use the recall function for times and stroke rates.)

Fin and Rudder Check

The coxswain is responsible for checking that the fin and rudder are secure and straight. All hardware should be tight. Rudder ropes should be tight, not frayed, and marked so the coxswain knows where to put them to ensure the rudder is perfectly straight. The coxswain can mark this with pieces of tape either on the sides of the boat or in the middle of the rudder ropes near the coxbox holder. Go through this with the coxswain so they get used to doing this. Do not change these pre-set markings without consulting the coxswain first.

Boat Storage

- Have the coxswain map out where the boat sits on the storage racks so the crew knows the placement of the shell and corresponding riggers. This can be done with pieces of tape on the sides of the boat where the shell sits on the rack. The rowers will be able to see these markers.
- Be aware of overhead obstacles such as riggers from the boat above and make sure the rowers do not lift the boat too high when putting it away. When you go to a new location, plot out your boat storage before you try to put the boat away. This minimizes damage to the shell and time spent trying to fit the shell onto a rack.
- Make sure the coxswain knows they are responsible for ensuring the shell is strapped down to the stretchers or rack at all times when the shell is outside, even if it's not windy.

Effective Communication

Good communication helps coxswains and rowers to operate as a coordinated, synchronized team in handling the boat on and off the water, contributing to efficient rowing and safe transport of the rowing shell. Clear communication involves the coxswain or bowperson using a firm and confident voice while the others are quiet, listening and responding to the commands.

New coxswains and rowers must learn the basic commands for carrying and launching the boat, and for getting in and out of the boat. Coxswains will also learn how to give effective commands, using consistent and standard phrases. These will be short, clear, firm and in the correct order. At the novice level most rowing commands include a cue or warning, for example: "In two, let 'er run"; "One, two. Let 'er run"; or "Over the heads, ready, up".

COACHING TIP

Discourage unnecessary chatter when rowers are handling or moving the boat. Chatter makes it difficult to hear and follow the commands and may result in an injury on land or while rowing.

Coxswain Commands

Teach the coxswain the calls necessary to get the boat off the storage racks and down to the water and back. A definite pause between each call helps the crew understand and react in unison to each command. Commands should be kept to a minimum.

Getting the boat to the water:

1. "Hands on the boat!" Crew places themselves along the boat across from the assigned seats and puts hands on the gunwales, standing ready to lift the boat.
2. "Ready out!" Crew lifts the boat off the racks.
3. "Shoulder height, ready up!" Crew lifts the boat to carry it at shoulder height. (This command might not be used depending on the club's boathouse, the boat's location on the racks, or the height of the riggers on boats in the boathouse.)
4. "Walk it out! Watch the riggers." Crew carefully walks the boat out of the boathouse, watching to make sure that the riggers do not bump against anything. Crew should avoid chatter except to call out a potential problem.
5. "We'll put the boat in on the right (left) side of the dock." As you approach the dock, tell the crew on which side they'll be putting the shell in the water.
6. "Toe to the edge!" Crew places foot at the edge of the dock to ensure they do not place the boat on the dock and damage it. (You can omit this command once the crew masters getting the boat into the water.)
7. "Over the head, ready up!" Crew pushes the boat from shoulder height to over the rowers' heads. Arms are stretched straight with one hand on each gunwale.
8. "Inside grip!" Rowers grab the crosspieces inside the boat. If the crew is going to put the boat onto stretchers, the coxswain needs to say "and rolling it toward (or away from)…". This is important, as the boat must be rolled away from the stretchers to avoid putting a hole in it.
9. "Ready roll!" Crew slowly rolls the shell toward the water and sets it down together into the water.
10. "Water side, slide the oars across!" The waterside blades are pushed out so the collar is against the oarlock and the blade is feathered on the water. This provides stability while the crew is getting into the boat.
11. "One foot in and down!" Rowers step into the boat and sit on the seat, always hanging on to the oar.
12. "One hand on the dock. Ready! Push!" All crew members push the boat away from the dock.

On-Water Responsibilities

Instructions for Coxswain Entry into Rowing Shell

- Never step into the bottom of the boat.
- Step one foot onto the coxswain's seat and put both hands on the sides of the shell.
- As you sit down, move your other foot from the dock on to the foot stop.
- Place the first foot from the seat onto the other foot stop. At this point your body weight will be suspended between one leg and your hands.
- Get in gently, ensuring there is no clothing dragging in the water.

Coxswain Comfort in Boat

Ensure your coxswain is comfortable with the seat, steering ropes and coxbox microphone. The coxswain needs to have enough room in the seat for their hips; a seat pad may be required. They should also be braced against the back of the boat and the foot stops so they do not move when the crew is rowing. The steering toggles or loops should not be too far forward toward the bow or the coxswain will not feel comfortable, similar to having the steering wheel of a car too far forward. This will be an individual preference for each coxswain.

Safety

- The main on-water responsibility of the coxswain is crew safety and steering.
- Make the coxswain aware of any on-water hazards or shallow areas. The coach can provide reference points from the coach boat.
- It may take several times for novice coxswains to learn the on-water environment. Coxswains usually appreciate having a coach say their name and then, "Do you see the buoy on port?" The coxswain should then look or double-check and nod "yes" as a confirmation.
- Ask coxswains to confirm on-water instructions from a coach with a nod or wave, as it is often difficult to hear responses over coach boat motors.
- Have the coxswain practice an emergency stop with the crew in the event of a future incident.

Steering

Coxswains should constantly check their surroundings for possible buoys or other hazards, especially when crews may be training side by side and the coxswain is focused on the other boat as well. During practices and racing they must remember to look behind them to see which crews are in the vicinity. Teach the coxswain that they can see directly in front of them by peeking around the crew. They may have to lean slightly, but remember, safety is the first priority!

When steering, coxswains should try to move the rudder ropes in a smooth fashion using the smallest adjustments possible. It is more important to focus on these smooth, minor adjustments throughout the whole stroke than only to steer on the drive phase. Optimally, you want to steer as little as possible during the recovery phase of the stroke during races and in practice if you're on a straight course. On big turns, coxswains will likely have to steer during the entire stroke. When steering on a non-buoyed course, coxswains should pick a spot on the horizon to aim for and try and keep that path. Something tall on the horizon usually works best.

When turning the boat, crews use different strategies. Some use full slide, others partial slide, and some arms only. The coxswain should support whatever direction the coach gives in regard to turning.

Steering on a Buoyed Course

When on a course with buoyed lanes, instruct coxswains to look down the course both to starboard and port and check how many buoys are visible on each side of the lane. If, for example, they can see four buoys ahead on both port and starboard, they're fairly straight in the lane. If they see three buoys on one side and five to the other, they're not heading straight — they're moving to the side with the least number of buoys and need to make a correction.

Wind can push the shell to one side of the lane or the other. The coxswain should look at the wave pattern ahead, anticipate the wind moving the shell to the corresponding side of the lane and start steering with small movements before the wind hits the shell.

Tape markings on the rudder ropes and/or shell will keep the rudder in the straight position and the shell on a straight path.

Backing into Starting Gates

Teach your coxswain to get as close as possible to the start gates, except in windy conditions. In a strong direct headwind or tailwind, they should leave enough room to account for the push of wind on the boat either into the start gate or away from the gate. In a crosswind, they should adjust where they are in the lane to account for the wind pushing the boat sideways, as well as the distance they will travel sideways during the turn. This may mean they have to start the turn in the lane beside them.

When approaching the start gates, the coxswain must leave enough space to account for the run-out of the boat. Crews that are moving faster will require the coxswain to stop the boat earlier than a slower moving boat. This is something a coxswain should remember if they are moving from a four to an eight or from a slower eight to a faster eight.

The shell should also be positioned along either the right or left side of the lane to account for its turning radius. The coxswain should be able to get a feel for where the port or starboard buoy should be relative to them when they are sideways to the course or lanes. For example, when crossing lanes, once the buoy from the port side of the lane is aligned with the stroke seat or the coxswain, the coxswain can ask the crew to turn the shell and they should end up in the centre of the lane. The position of that buoy relative to a given crew member's position will change depending on the boat (2+, 4+, 8+) and the boat-turning ability of the crew. Once the coxswain gets to know the pattern of a specific crew, they can usually figure out where the shell should be positioned when they begin to tell the crew to turn.

When two boats arrive at the start gates at the same time, the coxswain must assess the adjacent crew's position, and either edge closer to the gates or farther from the gates, so both crews have room to turn.

Usually the stern section of the boat can slowly back the crew into the starting gates. The rudder should be straight. Commands can be: *"Stern four to back; half slide; ready back; let 'er run; stern pair hold lightly."* The coxswain can drop out seats five and six at some point as well. Once in the gates, the bow pair can then align the shell straight in the lane with the command: *"Bow touch, arms only"*, or *"Two touch, arms only."* The rowers may touch the boat around using the top quarter side if they are within the two-minute start warning and the rest of the crew is in their starting slide position.

Docking

When docking, the novice coxswain should move the crew in slowly. They can approach the dock with half the boat rowing — often the stern half, so the bow section can be looking for and anticipating the dock. Docking is difficult in windy and rough conditions. Coxswains should try to come in on the side where the wind will push them in towards the dock. The trick is to be the right distance away from the dock so the wind will push you directly into the dock. Here the coxswain will have to try and judge the speed of the wind. They will also want the boat to be exactly parallel to the dock, otherwise the bow or stern of the shell could get pushed into the dock. The crew should be instructed to be patient, attentive and focused on docking (not preparing to leave the shell by gathering clothing or water bottles etc.). Many novice crews could slowly drift into the dock if the coxswain places the boat in the right position; then they simply have to wait for the wind to push them in, often with stern pair making the final touches to bring the shell forward towards the dock.

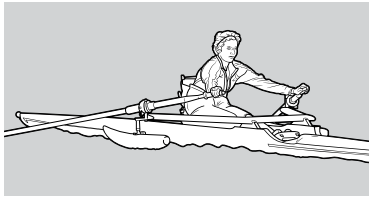
Coxswain's Weight

The novice coxswain should be focused on mastering the art of coxing and attend to the role of weight only with proper coaching and medical advice. It is considered advantageous for the cox to be light, as there is less weight for the crew to move, but this is generally considered of minor importance compared to steering, coaching and all other coxswain duties. For future consideration, competitive female coxswains weigh in at 50 kg (110.23 lbs), and men's and mixed crews at 55 kg (121.25). For para-rowing events, there is no restriction on coxswains with respect to adaptive eligibility, sex or age. The minimum weights of coxswains apply to all para-rowing events.

Coxswains are an integral part of your crew and should always be considered as athletes. How athletic a coxswain is will vary. Talk to your coxswains with regards to how much off-water training they would like to do and what your expectations are. Seeing their coxswain working hard physically may help rowers better accept their calls for more effort. Rowers need to know that the coxswain is working hard on their skill development and will have a learning curve, just as the rower would with their technical skills. The coxswain's many hours of dedicated work coxing other crews, reviewing with the coach aspects of the other athletes' technical performance, as well as trying to get their own off-water workout in during the day may not be seen by the rowers. Acknowledge any of the coxswain's work that goes above and beyond. Give positive feedback to the coxswain on the water to help build the crew's confidence in their coxswain.

Para-Rowing

Martin George, Jeff Dunbrack



Many coaches who have never worked with athletes with a disability feel that to be effective, they need highly specialized skills, knowledge, or training. But that's a misperception. In fact, most coaches who work with rowers with a disability soon discover that coaching these rowers is fundamentally no different than coaching any other rower. The challenge, as with all coaching, is to truly understand the individual, to focus on their abilities and to explore what they can achieve. The safety, comfort and enjoyment of the participant is paramount.

Long-Term Athlete Development-specific stages are the same for both able-bodied rowers and those with a disability. It's important to remember, though, that someone with a congenital disability may not have had the same sport experiences as other youth while growing up, and so may have missed some components of early play. They may therefore lack physical literacy and may not have confidence in their abilities.

One of the interesting challenges with para-rowing is that coaches need to think outside the box. Many coaches have expressed how working with rowers with a disability has enhanced their coaching capacity, as they were compelled to see things differently and look for creative solutions.

Para-Rowing Classifications

There are three general classifications for para-rowing: Legs, Trunk and Arms (LTA), Trunk and Arms (TA), and Arms and Shoulder (AS). You can find more detail about each of these classifications in the FISA Classification Standards (see Resources section, below). Let's examine each briefly.

Legs, Trunk and Arms (LTA)

Rowers here have minimal disability. LTA rowers are able to use the sliding seat as well as their trunk and arms. Examples of LTA rowers would be those with a visual impairment, a fused ankle or wrist joint, or a below-knee or foot amputation. Above-knee leg amputees are also classed as LTA if they have full function of their other leg.

Trunk and Arms (TA)

These rowers have trunk movement but are unable to use the sliding seat because of significantly weakened function of the lower limbs. This could include bilateral above-knee amputation, significantly impaired quadriceps or certain neurological impairments.

Arms and Shoulders (AS)

Rowers in this category usually have no or minimal trunk function and apply force predominantly using the arms and/or shoulders. AS rowers use pontoons fixed to the riggers to aid stability. The fixed seat will have a backrest to provide support and to allow the rower to be strapped into the boat.

Key Messages

The sense of freedom of being out on the water and in control of a rowing shell is exciting and empowering for new para-rowers.

Ask and listen if you don't know how the equipment will work for the new rower. They usually have a pretty fair idea of what's going to work and how to achieve the most successful set-up. Take some time to have a conversation with your para-rowers to find out what they are comfortable with. Their input into problem solving will be a valuable aid.

Wind and current will be a factor in planning a new AS session. If your rower is not using their legs to propel the boat, less force is available for them to combat weather conditions that may arise. Plan accordingly, especially in the early stages.

Just like any prospective rower, starting everyone on the ergometer is a good beginning. It also enables you to offer this option to rowers who need a fixed seat for support, even if you don't have the boat yet. The fixed seat attaches with a pair of simple clamps to the erg rail. It's a great way to see just how much control your rower has over their body in a safe environment. This better enables you to work out some initial plans for getting them on the water.

Treat all of your rowers equally. Do not assume fewer competencies in and around the water when you're working with someone with a disability.

Considerations for Rowers with Spinal Cord Injury (SCI)

Pressure sores are a concern here, both in rowing and in daily life. Discuss with your rower if they have areas of concern while in the boat. These areas can be addressed with appropriate padding. It's important to catch these pressure hot-spots early! Also make sure that any sharp objects (damaged gunwales, footstretcher slides etc.) are identified. Remember that rowers with SCI cannot feel below the level of injury to their spine. Once pressure sores begin, they can be slow to heal. Rowers should be encouraged to do skin checks when they get out of the boat.

Consider the rower's response to cold and heat. Rowers with SCI likely have an impaired capacity to control body temperature in very hot or cold weather. Discuss this with them to see if they have any concerns.

You may need to create a plan for how your rower will get from their wheelchair to the dock. A yoga mat (or similar) is useful to protect the rower from abrasions while on the dock.

COACHING TIPS

Coaching the rowing stroke is coaching the rowing stroke, no matter who you're working with. Follow the same principles for the rowing stroke as indicated in this handbook; these don't fundamentally change for para-rowing. You will be looking at a smaller rowing stroke arc in TA/AS, and therefore the improvements you are looking for may be subtler.

Wheelchair athletes may not be able to maintain their posture without some padding and strapping. Have a large bin with some foam (e.g. a camping roll), strapping and duct tape handy as a fix-all kit when you're working with wheelchair athletes. Work with them to get feedback as to comfort and functionality.

AS rowers may need help to learn how to recruit muscles they aren't accustomed to using in their wheelchair. Encourage the rower to keep their chin level, which helps them activate their chest and back muscles, and to not throw their head back as part of the drive sequence. This also helps to avoid neck strain.

Rigging

LTA Rowers

Rigging for LTA rowers is similar to regular sweep or sculling rigging with modifications suitable for these rowers. Use conventional club boats, rigging and oars.

If working with visually impaired (VI) rowers, you might need to rethink your reference points for teaching, as you may not be able to demonstrate the stroke, depending on the individual's level of visual impairment.

Be aware that for rougher water, VI rowers now have a shifting water level they may or may not be able perceive, so their perception of the water's surface may be affected.

AS and TA Rowers

The boats used for AS and TA rowers are wider to accommodate the fixed seat. These stable boats also make great additions to any club for new and recreational rowers.

Both AS and TA rowers use a fixed seat, so seat placement is crucial for effective stroke length. Take the time to adjust this correctly.

In a racing situation, TA rowers will need their legs strapped down to aid functional stability. Keep in mind, however, that strapping is a safety concern for a new rower in case of a capsize. Think ahead to a strategy for escaping the strapping underwater.

If you have a TA rower who can use a conventional club boat, you simply need to immobilize the sliding seat.

Pontoons needed for AS and TA rowers are reasonably priced and can be fitted to all rowing shells. They are a simple way to get people of all ranges of ability rowing, and they're a great asset for any new club program.

Rigging for AS and TA boats requires no overlap with the oars due to the fixed seat, and the span – if your club has ordered the tighter-spanned riggers – is considerably narrower than regular measurements.

Typical para-rowing measurements are as follows (keep in mind that these are just guidelines; you'll want to tailor measurements to each individual rower):

- AS span 130 cm; oar length 255 cm; inboard 60.5 cm
- TA span 140 cm; oar length 266 cm; inboard 66 cm

To start with, your club may not be able to provide specialist equipment, so if using a 160 cm span then use the shortest oars you can find, with a 76 cm inboard to create no overlap.

There is a simple formula for finding the inboard to create no overlap, which works with any span: Measure the span, divide by two and subtract four centimetres. This will give no overlap.

Additional Resources

Here are some excellent resources for further reading:

Canadian Paralympic Committee. . . . . www.paralympic.ca

Coaching Athletes with a Disability . . . . . www.coach.ca

Ergometer Information www.concept2.com

FISA Classification Standards. . . . . www.worldrowing.com

RCA Adaptive Manual . . . . . .www.rowingcanada.org

Developing The Whole Athlete

Jennifer Walinga, Kirsten Barnes

You're not just a set of arms, nor are you simply a bundle of neurons. You're a complex, unique and miraculous mixture of mind and body. Long-Term Athlete Development (LTAD) considers the whole athlete in rowing. This holistic approach helps to maximize the rower's physical, mental, cognitive and emotional development.

It's well known that rowing is a physical and mental challenge. But rowing also promises to develop essential skills that will help the rower individually and within the team, as well as in other arenas of life.

The key areas we focus on in developing the whole athlete are mental performance, moral performance and socio-emotional integrity. We'll look at each in turn.

Mental Performance

Ever heard the saying that athletic achievement is 90% mental and 10% physical? While we're not absolutely certain of the breakdown, it's widely accepted that the psychology of sport performance plays a key role in the development of all rowers. Decades of research shows that a performer's mental state has a vital impact on daily training and performance. Training the mind for success is an essential ingredient alongside the physical, technical and tactical training and race preparation that every rower does. Including mental performance in a rower's daily training leads to overall better development, as it addresses the whole person — in training, in competition, and in life.

Moral Performance

Research shows that sports participation leads to psychological well-being, positive social development and higher academic and occupational achievement. It provides a source of fun and recreation, brings people together, and contributes to the economic, cultural and moral development

of the wider community. Some even say it reduces crime and delinquency. Pretty powerful stuff! As a coach, you play an important role in ensuring your rowers learn healthy, socially beneficial life skills and values through sport. At the end of the day, you're the one with the power to help your rowers develop into fit, positive, contributing members of Canadian society. You are shaping our fellow citizens!

Socio-Emotional Integrity

Related to moral performance, coaching the whole athlete also addresses the socio-emotional dimension. You have a hand in guiding your rowers' character and integrity, which includes the values, life skills and principles that shape the moral development of the individual. The socio-emotional realm includes values like teamwork, commitment, responsibility, discipline, striving, honesty, respect for self and others, inclusion, and a positive attitude. These attributes and skills are reflected in the True Sport Ethical Literacy framework and the True Sport Principles, which support Long-Term Athlete Development. More information can be found at http://www.truesportpur.ca and www.canadiansportforlife.ca.

In the following table, we've suggested some coaching strategies that will help you foster each of these aspects of socio-emotional development.

Attributes	Coaching Strategies
Teamwork	• Balance exercises performed on the water foster reliance on others and shared responsibility. • Illustrate the power of synergy by asking people to row at different times and then at the same time (e.g. rowers taking catch late and then catching together). • Have the bow pair do ten strokes, then the stern pair, then all together. Key takeaway: The whole is greater than the sum of its parts. • Highlight the impact of timing (teamwork) on balance by doing the pause drill or the blades up drill with accurate timing and inaccurate timing. • Compare the workload of part vs. whole team helping with off-water duties (equipment storage and clean up). Key takeaway: Many hands make light work. • Following racing, encourage shaking hands on the dock among your own team and with the competition. • Discuss the collaborative nature of competition, e.g. without your competitor there would be no race, no opportunity, no challenge to reach your potential. • Give people an opportunity to row with those they may not know well in order to strengthen relationships. • Row in two boats side by side in order to see the value of challenging as opposed to conquering one's competition. • Change seating orders to give people an opportunity to "row in other people's shoes" and emphasize the idea of appreciating one another's roles and contributions. • Give the team an opportunity to identify or create effective means of communication within the boat as well as off the water, and decide why such a system or set of norms is important.
Commitment	• Discuss the importance of commitment in the context of rowing, e.g. what happens if someone doesn't show up for a row? • Encourage specific commitment statements from all members of the crew, e.g. we will commit to being on time, prepared, healthy, communicative, positive, focused and determined.

Commitment *(continued)*	• Require restitution for any missed rows/late arrivals by asking the late crew member to determine a contribution they can make to the team (e.g. your late rower will carry all blades up from dock). • Impress upon your rowers that reaching their personal rowing goals requires individual commitment.
Responsibility	• Look for opportunities to illustrate the unique responsibilities of each member of the crew, e.g. steering, calling commands, setting the pace, holding the boat etc. • Require that all crew members participate in off-water demands by assigning specific roles or jobs to every member, e.g. coach boat set-up and take-down, life jackets, equipment, gas can, blades etc. • Discuss timing and topics for meetings (e.g. "We'll address today's team issue following our off-water warm-down.") • Discuss ways in which current and former rowers are giving back to the community. Explore opportunities where team members can contribute to the community, and talk about the benefits. • Require club volunteer activities from all members of the crew, e.g. race and dock marshalling, fundraising, club clean up etc. Celebrate and reward these activities with parties, awards nights, documentation and posting/communication of goals achieved.
Discipline	• Perform ratio drill 1:3 drive:slide to illustrate the need for a disciplined rhythm. • Require a health and training log to capture evidence of disciplined action, e.g. eating healthy, sleep and recovery, kms rowed, cross-training activites. • Highlight the impact of a disciplined approach when sharing feedback, e.g. pointing out that the entire crew rowed smoothly across the rough water because they were disciplined about timing, or saying, "You're now rowing technically well because you have completed these workouts." • Illustrate how to break large goals into manageable steps or increments, e.g., "If your long-term goal is to be a strong technical rower then you need to do (insert drills and number of technical) workouts." • Develop a positive focus during boathouse and on-water activities, and encourage your crew to regroup after distractions. • Expect your rowers to arrive on time.

Striving	• Discuss goals (process and outcome) in terms of health, communication, technique, strength, fitness and speed. • Provide an opportunity for rowers to express their goals in multiple forums and ways, e.g. on the wall, in journals, in groups, through workouts etc. • Develop times and measures to capture success. These should be regular, incremental and multifaceted (e.g. short- and long-term goals) so that even if a rower doesn't reach the larger goal at the intended time, they can count small successes toward it. • Help to encourage a rower's ability to bounce back after a setback and strive once again.
Honesty	• Discuss the rower's role in training and competition. Understand the rules of racing, e.g. equipment breakage, false starts, lane impingement and ethical decision-making. • Discuss potential scenarios (e.g. in a head race, your crew cuts off another crew and breaks their oar but your crew continues rowing to win the race). Discuss honest decision-making and consequences. • Discuss injuries and how to handle them. Talk about the importance of being honest about the extent of an injury, as well as capacity and healing time. • Use strategies for incorporating honest feedback, e.g. video footage.
Respect for Self and Others	• Require your coxswain to take a leadership role in communicating to the crew. Your coxswain must understand they are the eyes, ears and captain of the crew. • Require a personal health log from each rower which includes weight, training, nutrition, sleep and injury prevention strategies, with an emphasis on maintenance or improvement. (Note that losing weight and increased injuries can be a sign of overtraining.) • Provide opportunities for crew members to ask for feedback on their own and others' performances in order to develop greater self-confidence. Expect rowers to respect the opinions of others. • As their coach, you can ensure that all your crew members shine in at least one area. • Encourage rowers to pursue life balance by including other activities outside of rowing. • Expect your rowers to develop good time management that honours team commitments.

Inclusion	• Develop rotating responsibilities, e.g. each crew member takes turns leading warm-up, cross-training and warm-down activities. • Discuss roles in the boat and the importance of each seat. • Create opportunities to experience the power of each individual in the boat, e.g. rowing in pairs, highlighting the distance between puddles to illustrate the contributions of each pair etc.
Positive Attitude	• Model positive reinforcement, support and trust in your leadership and coaching style, e.g. point out your rowers' strengths and successes; show trust in all members of the crew to lift, pull and do things on their own; trust them to lead on their own or row in different boats, with different crewmates and in rougher water conditions. • Challenge your crew to develop their own commands for set-up and take-down e.g. fun/positive names for crew members, a crew name, particular songs or chants to accompany training and competition etc. • Discuss strategies for building a positive culture in and around the boathouse. • Debrief after each row to discuss and resolve any negative energy. • Confront negative energy. Remind rowers that frustration is a normal reaction, but one that needs to be managed. It doesn't balance the boat! • Remind rowers of the technical and life skills they possess that will help ensure a more pleasant row, e.g. note good hand levels and posture; highlight their encouraging nature; remind crew of past situations when they worked together to overcome a challenge. • Develop and maintain a fun environment that encourages life-long participation in sport – hopefully rowing!

Nutrition

Susan Boegman

Proper nutrition is a key component to overall rowing success and each coach has a role in sharing nutrition knowledge with their new rowers. As a rower embarks on this journey, the importance of sport-specific nutrition increases with each stroke, both in terms of education and key nutrient needs. Even new rowers will benefit from understanding the foods that contribute to optimal training and recovery. A well-nourished rower will be energized, mentally alert, recovered and ready for each new training session, and will have much less risk of illness and overtraining.

Getting nutrition fundamentals right can help the new rower to:

- maintain/increase energy and stamina;
- recover from injury;
- adapt and recover from training;
- maintain hydration; and
- stay healthy/enhance immunity;
- cope with daily stressors.
- achieve a healthy body composition (grow lean mass or lose fat as necessary);

Quality Eating

A rower's everyday eating pattern is critical because it is the foundation from which they train, adapt, recover and compete. Poor eating: poor foundation! Healthy eating: solid foundation!

✓ Start every day with breakfast. Your brain and muscles will thank you. This meal will rev up your metabolism and prevent nighttime junk food fests.

✓ Eat every two to three hours, aiming for five or six snacks or mini-meals per day. Meals should be well balanced and should focus on high quality foods (see Table 1).

✓ At every meal include: carbohydrates for energy, skill and going the distance — the more you train the more you need; protein to build,

grow and repair; high quality fats to decrease inflammation; and vegetables and fruits for antioxidant protection.

✓ Eat the highest quality food that you can afford.

✓ Maintain hydration throughout the day, including during training and competition.

Table 1

Carbohydrate-Rich Foods	Protein-Rich Foods	Healthy Fats
Fibre-rich grains and legumes	Lean animal protein sources	Animal fat sources
quinoa, brown rice, barley, whole or multigrain pasta, sprouted or wholegrain breads, old fashioned or steel-cut oatmeal, multi- or wholegrain cereals, chick peas, kidney beans, lentils, split peas, black beans	fish, lean beef, bison, chicken, turkey, lean pork cuts, eggs	fish, grass-fed beef
Dairy and dairy alternate carbohydrate sources	Dairy and dairy alternate protein sources	Vegetable fat sources
yogurt, cow or goat milk, soy milk, rice milk	whey protein/isolate, yogurt, cow or goat milk, soy milk, cheeses	olives, flax, hemp, chia, olive and canola oil, avocados, nuts and seeds, soybeans
Fruits and starchy vegetable carb sources	Vegetarian protein sources	
all fresh and dried fruits, yams, sweet potato, potato, corn	all legumes, nuts and seeds, soy products and non-dairy protein powders	

Quality Hydrating

A rower's state of hydration varies with training, racing, sun exposure, humidity, air temperature, heat acclimatization and fluid intake. Loss of fluids and sodium through sweating can increase core temperature and impair normal physiological function and performance. Prevent dehydration and subsequent fatigue by setting up a daily hydration plan:

✓ Start drinking as soon as you wake up.

✓ Plan for a beverage at each meal and snack.

✓ Carry a water bottle and sip fluids throughout the day. Refill if necessary.

✓ Drink during and after training. Set yourself the goal of at least one full water bottle during and after each training session.

✓ If your urine is the colour of lemonade, then you're doing a good job. Darker? Drink up!

Quality Recovery

During hard training, the muscle fuel glycogen is used. When this fuel runs low, the rower runs out of steam. Hard training causes muscle protein breakdown; this breakdown stimulates the muscles to rebuild and become stronger.

What to do to enhance recovery

- Eat carbs and protein, and drink to rehydrate. After training, the muscles are primed to both replenish carbohydrate stores and repair muscle tissue. A rower who eats immediately after the conclusion of training will have better muscle recovery; this will enhance the training quality of subsequent sessions.
- A follow-up meal containing high-quality grains and starches plus lean proteins will further enhance recovery.
- When recovery time is short, immediate recovery nutrition may be best taken as a fluid, since the easily digested nutrients found in recovery drinks (such as chocolate milk) are rapidly absorbed, thus enhancing the rate of glycogen synthesis. Drinks also provide fluids and electrolytes – perfect for rehydration.

Table 2: Before, During and Recovery Carbohydrate, Protein, Fat and Fluid Guidelines

	Carbs (g)	Protein (g)	Fat	Fluids	Sample Foods	Notes
Before training or competition Between 1-4 hours prior	1-4 grams/ kg of body weight (BW)	Yes – if adequate time to digest	Yes – if adequate time to digest	250-500 mL 1-2 hours before	• oatmeal or cold whole grain cereal + milk + fruit • toast + nut butter + fruit • turkey sandwich + fruit + juice or milk • sport/granola bar	• to top up energy stores • closer to training time, choose smaller portions, as they're easier to digest • General Guide: • 1g carb/kg BW if 1 hour prior and up to 4g carb/kg BW if up to 4 hours prior. • experiment during training with timing and quantity • use familiar foods/fluids and read labels to determine how many carb and protein grams are in various foods • try a liquid meal supplement if you have pre-race jitters or low appetite
During training	Yes – 30-60 grams if training for over 90 minutes	No	No	150-300 mL every 15-20 minutes	• - sports drinks such as Gatorade, gels etc.	• helps keep blood glucose levels up when body glycogen stores are decreasing • fluid needs are very individual – this is just a guideline • drink only water if training lasts fewer than 90 minutes

Recovery Eat within 30 minutes of training or competition	Yes – 0.5-1.2 g/ kg BW/hr	Yes – 20-30+g in the 2 hours after exercise	Yes – after the first hour	~750-1000 mL within 1-2 hrs; more if you are training in hot weather or if you sweat a lot	• 1% chocolate milk or soy milk • berry and milk/whey protein-based smoothie • yogurt and banana • skim or 1% white milk and PBJ sandwich • Kashi Go Lean Crunch + milk • egg white (or eggs), whole grain toast, fruit • Elevate Me Bar & favourite sport drink	• to replenish glycogen stores, repair muscle tissue and rehydrate • After a weight training session: • 0.5 g carb/kg BW • After an on-water or ergometer session: • 0.8 g carb/kg BW if also consuming protein in recovery • 1.2 g carb/kg BW if fewer than 4 hours before next session • 1.5 g carb/kg BW if very high energy needs

REGATTA DAY SNACKS

Here are some sample snacks to have on hand when rowers are at a regatta site all day. Ensure there is some carbohydrate and protein in each snack to sustain the rower throughout the day.

- peanut butter and honey or banana sandwich (whole grain bread)
- good quality sport bar (e.g. Lara, Elevate, Simply, Pro Bar)
- fresh fruit and Greek yogurt
- trail mix (fruit and nut mixture)
- smoothies (pre-made with yogurt)
- whole grain crackers or vegetables and hummus

Nutritious Breakfast Recipe

- Power Muesli
- 8 cups old fashioned oats
- 4 cups of favorite whole grain cereal such as Kashi Go Lean Crunch (or more oats)
- 1 cup each: wheat or oat germ, ground flax, ground sesame seeds, hemp hearts, lecithin granules, raisins, dried goji berries or cranberries
- 4 or more cups chopped nuts.
- ½ cup (or to taste) brown sugar, Sucanat or other sweetener
- cinnamon to taste
- optional ingredients: chopped candied ginger or shredded organic unsweetened coconut

Combine all ingredients. Store in large plastic Ziploc. (You can halve this recipe and make substitutions if necessary.)

Dynamic Warm-Up

Lindsay Forget, Karen Orlando

A solid warm-up is an integral part of rowing. It decreases the risk of injury and prepares both mind and body for a safe and successful rowing session. A good warm-up improves blood flow to all working areas; if your rowers are feeling sore and stiff, light activity can ease this and allow for better movement. It's an excellent opportunity to increase mental alertness, which in turn facilitates better learning. As a coach, it is imperative that you create a discipline of warming up on land before every practice so your rowers continue to pursue this good habit throughout their rowing careers.

There are two parts to the on-land warm-up: general and dynamic. The general warm-up involves aerobic activity that increases body temperature. It's followed by the dynamic warm-up, a series of movements designed to mobilize and stretch the muscles and joints. (The traditional 'sit and stretch' method before activity is no longer practised; static stretching and flexibility is performed afterwards instead.)

General Aerobic Warm-Up (3-15 minutes)

The general warm-up involves three to ten minutes of aerobic activity. If it's cold out, extend your warm-up to 15 minutes.

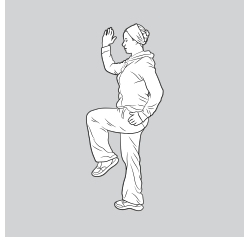
Examples of aerobic activity include jogging, cycling, erging and jumping jacks. Skipping drills and high knees are also ideal activities to help with hip mobility.

Dynamic Warm-Up (8-10 minutes)

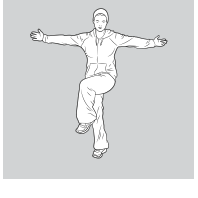
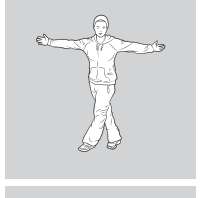
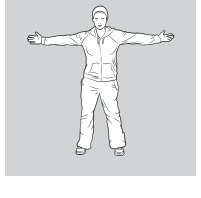
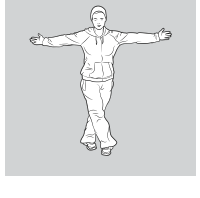
Prior to activity, rowers should engage in a minimum of five exercises that promote mobility in all of the major joints (i.e. hips, shoulders and spine). Dynamic movements promote good movement patterning and flexibility, which helps in developing proper rowing technique. Perform the exercises as a group, with the coach or a rower as a lead.

Below are several examples of dynamic movements. Each repetition should only be held for a couple of seconds before performing the next. Remember, this is dynamic: you want to keep moving!

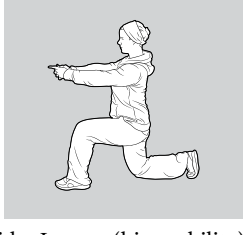
1. High March (total body)
   - March forward, bringing your knee up as high as possible each time you take a step.
   - As each knee rises, raise the opposite arm, bent at the elbow, into the air.
   - Repeat march, alternating arms and legs for approximately 20 metres.
   - Jog back to the starting point.

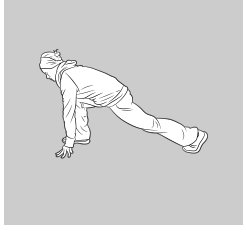
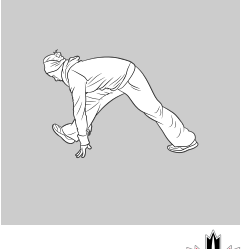
2. Karaoke Walk (total body)
   - This drill requires you to walk laterally. Start by moving to the left. Bring your right knee across your body, nice and high, with full hip range of motion. Place the right foot on the ground.
   - Bring your left foot from behind and return to the starting stance.
   - Now move the right foot behind the left, and then return the left foot to the starting stance.
   - Repeat four times, then move to the right, reversing the steps.

3. Walking Lunge With Twist (lower body mobility and stability; spine mobility)
   - From a standing position, take a big step forward with your left leg, keeping your feet hip-width apart.
   - Keeping your back straight and chest out, bend your left knee to 90 degrees (make sure it doesn't pass your toes!). Your right knee will almost touch the ground.
   - Hold this lunge position, arms straight out in front of you, palms together.
   - Rotate to the left, keeping your lower body strong. Once you've reached the end of your twist, return to centre and step your right leg forward to meet your left. Switch sides.
   - Do ten lunges in total (five per leg).

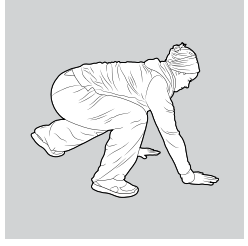



4. Spider Lunges (hip mobility)
   - Begin in a standing position. Lunge one leg forward and place each hand on either side of your front foot. (If you can't reach your hands to the ground, place them on your front knee.)
   - Press the hip of the rear leg toward the floor to stretch the hip flexors for two to three seconds.
   - Step the back leg forward to meet the other in a standing position. Continue with the opposite leg forward.
   - Repeat three to five times on each leg.

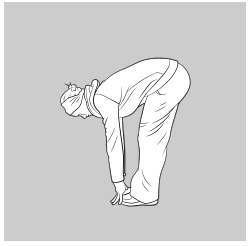
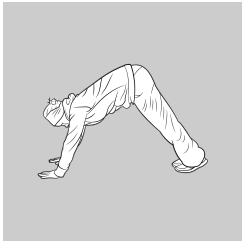
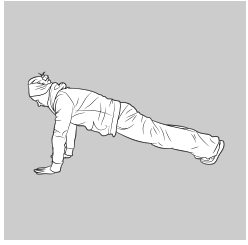



5. Assisted and Bodyweight Squats (hip and spinal mobility)
   - Place your feet hip-width apart or a little wider with toes pointed out slightly, and your arms above your head in a Y formation.
   - Keeping your heels glued to the floor, sit back like you're sitting in a chair. (Chest and arms up! Bum out! Eyes forward! Back straight!)
   - The moment your heels pop up or your chest drops, return to standing. Conversely, if you can sit all the way down with heels down and a tall chest, this is your full squat (it's also the optimal finish position).
   - Continue for ten reps.
   - Modification: An assisted squat is the same movement except holding onto a post or similar structure to ease some of the load on your knees and hips. It's a good warm-up for lower body joints before doing a bodyweight squat with no support.


6. Bear Walk (total body)
   - Place feet and hands on the ground.
   - With bent knees, walk yourself forward by moving your right hand forward, followed by your left foot.
   - Repeat with left side, repeating for approximately ten "steps."

7. Inchworms (hip, spine and shoulder mobility and stability)
   - Begin in a standing position.
   - Reach for your toes, bending your knees if need be.
   - Once your hands are on the floor, walk them out until you're in a plank position with elbows straight.
   - Once in a plank, walk your feet in toward your hands until your hands and feet are as close as you can get them.
   - Repeat the movement by walking your hands back out, away from your feet, into another plank position.
   - Continue your inchworms for another three to eight reps.


Cross-Training

Lindsay Forget, Karen Orlando

Cross-training is essential for rowers at all levels. New rowers especially benefit from a variety of off-water workouts, as this type of training increases their strength, stamina, speed and suppleness while reducing the incidence of injury. Cross-training also enhances physical literacy by developing balance, agility, coordination, as well as running, jumping, kicking and throwing skills.

The repetition of the rowing stroke can be straining on the new rower's body. Diverse types of exercise and movement will create strength and stability in opposing muscles to balance the muscles needed in the rowing stroke. For example, side-to-side or single-leg movements are great cross-training exercises for rowers, since there is little lateral movement in the boat and on the erg. In rowing, we tend to see weaknesses developing in the sides of the hip, which can lead to instabilities and even injury. Cross-training helps to prevent this, while incorporating variety and fun into your practice sessions! Ensure your rowers do a proper warm-up before each cross-training sport or exercise.

Soccer

A game of soccer will assist the new rower in developing speed, stamina and agility (quick steps, fast feet, eye/feet coordination, maneuvering). Soccer also provides an opportunity for team building for the new crew!

Running (maximum 40 minutes)

Running is an excellent option for cross-training. It's accessible, assists in training the heart and lungs, and almost anyone can do it. If you're planning on doing any running with your rowers, be mindful that progression is critical. The worst thing for a novice is to jump into a high volume of running: while it's a great form of exercise, running can be very hard on the body, particularly the knees and hips. Encourage your athletes to pursue good technique to avoid injury.

Be sure to do a proper warm-up prior to running. This is a good time to do some skipping and high-knees drills. Ask that your athletes wear proper running shoes and have a backup plan (e.g. stationary bike) in case anyone has limitations with their knees or hips. It's also a good idea to encourage your rowers to do some sideways and backwards running to get them moving in different directions.

Start with five minutes of running. Work up in increments of five minutes to a maximum of 40 minutes. The goal is to encourage steady-state aerobic activity.

Develop your rowers' speed through running accelerations. One example of acceleration training is sprint training, in which running speed is gradually increased from jogging to striding and, finally, to sprinting at maximum pace. Running repeat sprints of 20-30 metres with full recovery is one option for an acceleration workout. These drills provide neuromuscular and cardiovascular benefits by maximizing power output.

Cross-Country Skiing/Swimming

Include these aerobic sports as well to provide stamina and strength while developing supporting muscles that will enhance the rowing stroke and assist in injury prevention.

Yoga and Pilates

Yoga and pilates are fantastic cross-training options for your rowers. Core strength and flexibility are critical for rowers, and both of these forms of activity are great for this. You don't have to be an expert; if you have a TV and DVD player at the boathouse, you can always have yoga as a backup plan! No DVD? Stream it live at DoYogaWithMe.com.

Circuit Training

Circuits can be a lot of fun for the new rower. They require little or no equipment to achieve an effective workout. Circuits are a great way to incorporate your non-rowing specific movements, such as side lunges and pushups. When leading this type of activity, keep in mind your total volume of work. If your rowers are just starting out, remember to keep the intensity low. For example, start with two sets of seven exercises, giving ample rest between stations. With too little rest or too many exercises, rowers can become quite sore or even injured.

Here's an example of a circuit for new rowers that incorporates nine exercises:

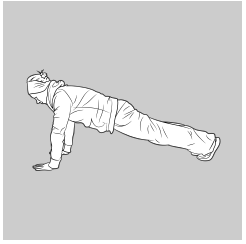
The Boathouse Workout

This circuit is designed for a boathouse training session and assumes you have no fitness equipment at all. It can be done anywhere! Perform each station for 30 seconds, then move to the next. Participants have 30 seconds to get to the next station. This gives your rowers a 1:1 work-to-rest ratio.

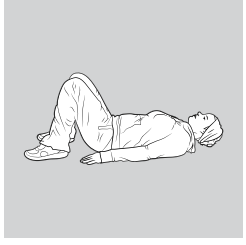
Once all the exercises are complete, rest for three to five minutes and repeat the circuit once again. As a progression, you can do three sets of the circuit, shorten the rest period, or increase the work time. Whatever you do, be sure to build gradually, emphasizing good technique and proper form.

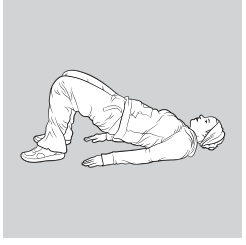
1. Bodyweight Squats
   - Place your feet hip width apart or a little wider, with toes pointed out slightly and hands above your head in a "Y" formation.
   - Keeping your heels glued to the floor, squat back like you're about to sit in a chair. Keep your bottom way out!
   - Keep your chest and arms up, your eyes forward and your back in a neutral position (the same position it would be in if you were standing normally). The moment your heels pop up or your chest begins to drop, you've gone far enough. Return to standing. Conversely, if you can sit all the way down, keeping your heels on the floor and your chest tall, this is your full squat (and is also the optimal finish position).
   - Rowers should move slowly through the motion. Flexibility will improve over time.

2. Plank
   - Begin face down on the floor with feet together, toes planted and hands (palms down) under your shoulders.
   - Contract the deep muscles of your core and press yourself up until your arms are straight.
   - Maintain a neutral spine and a straight line from your shoulders to your heels. If your wrists are sensitive, go onto your forearms.
   - Modification: If the full plank is too difficult, you can modify this by leaving your knees on the floor, or by placing your hands/forearms on a bench.



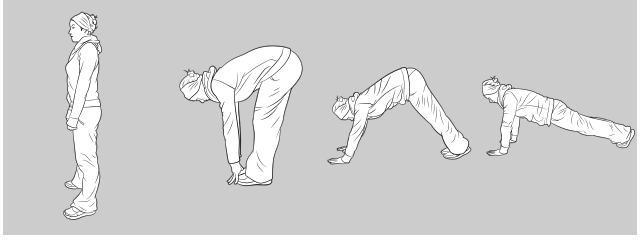
3. Bridge
   - Lie on your back with knees bent and feet flat on the floor.
   - Bring your hips off the ground to create a straight line from your shoulders to your knees. Hold for a second or two, then release back to the floor or mat. Repeat the movement until the 30 seconds are over.
   - Don't arch your back – your spine should stay in a straight line.
   - Modification: If you find this easy, try the same movement on only one leg, alternating legs each time you bridge.



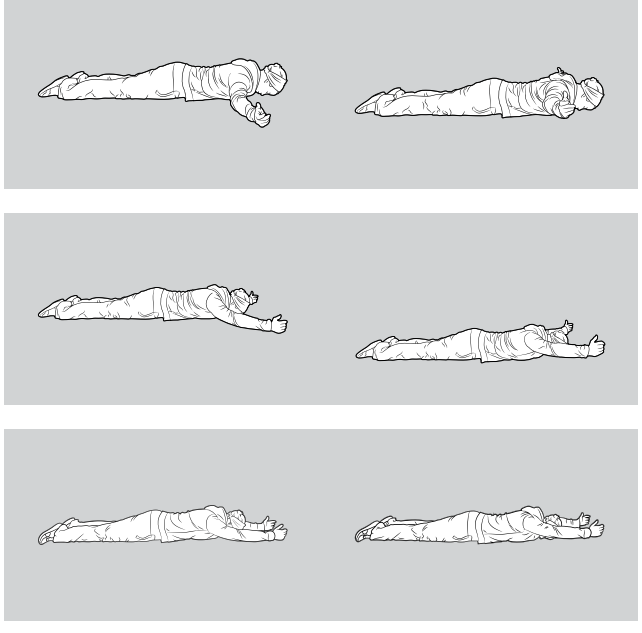


4. Skater Lunges
   - Begin in a standing position with knees bent in a quarter-squat position.
   - Shift your weight onto your right leg. Lift your left leg off the floor and tap it out to the side and back to centre. Repeat this movement until you're halfway through the time limit.
   - Switch legs for the second half of the time limit. Feel the burn!

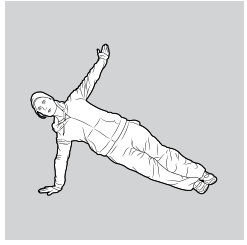
5. Inchworms
   - Begin in a standing position.
   - Reach for your toes (you may need to bend your knees to do this). Once you have your hands on the floor, walk them out until you're in a plank position.
   - Once in a plank, walk your feet in toward your hands until your hands and feet are as close as you can get them.
   - Repeat the movement by walking your hands back out, away from your feet, into another plank position. Repeat from the beginning.



6. T's, I's and Y's
   - These exercises help to develop shoulder blade stability. They are best done on a large stability ball, but if this isn't accessible to you, they can be done face down on a mat.
   - If you're on a ball, stretch your legs out straight behind you and place your chest on the ball. If you're on the mat, simply lie face down.
   - Try to keep your shoulder blades together and tucked down, toward your hips, as you perform these movements.
   - Start with your T's. With hands straight out at your sides and thumbs toward the sky, pulse your hands slowly up and down no more than 12 inches off the ground. Don't lift your chest off the ground.
   - Perform the same movement with your arms in a Y formation, and again in an I formation. Complete eight reps of each until it's time to switch stations.



7. Side Plank

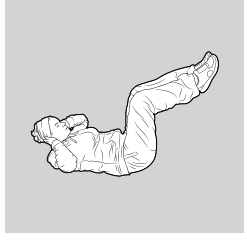


   - Lie on your left side on the floor or on a mat. Place your left hand under your shoulder and push your body up so that your entire body is in one straight line, balanced on your left arm and left leg.
   - Place your right leg on top of the left; keep your eyes looking forward.
   - Hold this position, ensuring that your body is perfectly straight.
   - Modification 1: Place your right foot in front of your left so that you're balanced on both legs. Repeat on the right side.
   - Modification 2: You can do the plank from your elbow and forearm if balancing on the wrist is too difficult.

8. Crunches

   - Start on your back with your knees bent and feet flat on the floor.
   - Place your fingertips lightly beside your head, tuck your chin toward your chest slightly and peel your head and shoulder blades off the floor.
   - Hold your crunch for three seconds, then return to the floor. Repeat this movement until the time is up.

9. Lower Abdominal Crunches



   - Start on your back with your knees bent at 90 degrees and your hands underneath your buttocks.
   - Now slowly lift your bottom off your hands, pulling your belly button down toward your spine.
   - Return to start position and repeat movement until the time is up.

Warm-Down (Post-Practice Stretching) *Lindsay Forget, Karen Orlando*

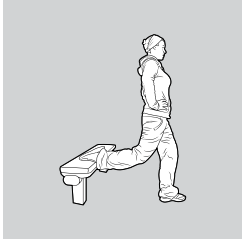
As with the warm-up, a proper warm-down increases mobility and lessens the likelihood of muscle tightness and injury. Rowing back to the boathouse works as a natural cool-down, but stretching off the water is still necessary. It's your responsibility as a coach to encourage your rowers to stretch and work on mobility after each workout. Ensuring your rowers understand that each practice ends with on-land stretching helps to reinforce a good habit. It also encourages rowers to efficiently manage their time in docking and putting the boat away!

Stretching (10 minutes)

Once all equipment has been stored, gather in a warm location. If you're outside and if it's cool, have your rowers dress warmly to prevent muscle injury.

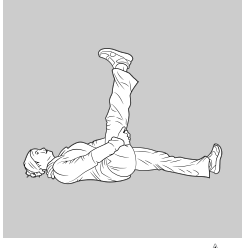
It's a good idea to invest in mats so your rowers have something comfortable to stretch on. Choose five stretches and lead the group through each one. Hold each stretch for a minimum of 30 seconds. Key areas to target for rowers are the hips, legs, back, chest and forearms.

1. Sample Stretches For Rowers



   - Quads
   - Find a box or bench that's halfway between knee and hip height.
   - Stand facing away from the bench. Place your left foot behind you on the bench.
   - Press your left hip forward. You should feel a stretch through the front part of your left thigh.
   - Hold for 30 seconds and switch legs.

2. Hamstrings



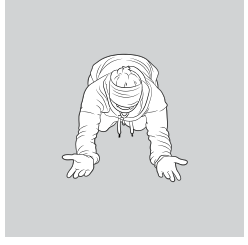
   - Lying on your back, lift your left leg straight into the air. Keep hips, head and right leg firmly on the floor.
   - Grasp the left leg behind the thigh and gently pull it toward you until you feel a light stretch.

- Hold for 30 seconds and switch legs.
- Modification: If you can't reach behind your thigh without taking your head off the floor, try to use a band around the back of your thigh or around your foot.

3. Hips and Buttocks

- Lying on your back, bend your knees and plant both feet on the floor in front of your buttocks.
- Cross your left ankle just above your right knee on the front of your thigh.
- Reach around and grasp your right shin with your hands.
- Modification: If your shin is too far for you to comfortably reach around, clasp your hands behind your right thigh instead.
- Keeping your hips flat, pull your right knee toward your chest. (You're using the right leg to apply the direction and tension that will stretch your left glute.)
- Hold for 30 seconds and switch legs.

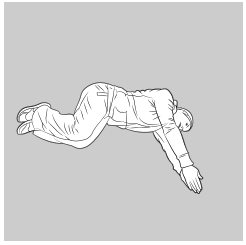
4. Lats

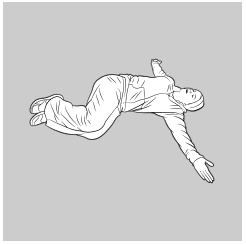


- Kneel on the floor with your bottom resting on your heels.
- Bend forward with arms outstretched. Place your forearms parallel to each other on the floor, palms up.
- Keeping your arms parallel, bring your hips back toward your heels.
- Once you feel a stretch behind your armpits, hold for 30 seconds.

5. Spine
   - Lie on your side with your knees and hips both bent at 90-degree angles.
   - Place your arms straight out in front of your body with your hands together, palms facing each other.
   - Keeping both knees glued together and your bottom knee and hand glued to the floor, open your arms as wide as you can. Follow your top hand with your eyes so your head moves with the rest

of your spine. This opens your chest and stretches your torso and spine.
- Hold for two to three seconds and return to starting position. This is one rep.
- Do ten reps on each side.





6. Chest

- Stand inside a doorframe facing into the room.
- Place your arm against the wall at shoulder level, with your elbow bent at 90 degrees. (If you don't have a doorframe, use a post.)
- Gently press your torso forward, keeping your arm in place until you feel a stretch across your chest.
- Hold for 30 seconds and repeat with the other arm.
- You can target different sections of the chest muscles by moving your arm up or down slightly. Try a lower and an upper stretch, as well as one at shoulder level.

7. Forearms

- Sit on the floor with legs outstretched.
- Place your hands behind you, palms wide open and down, and fingers facing away from you.
- Lean back on your wrists until you feel a stretch. Hold for 30 seconds.

Soft Tissue Release

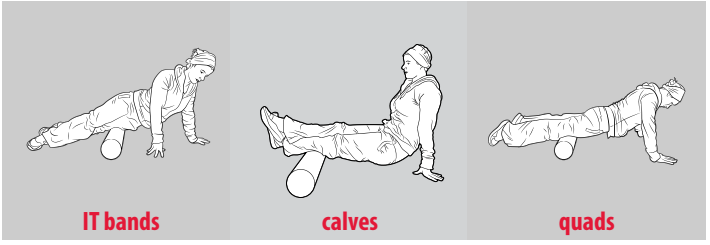
Mobility work uses body weight and a small ball or roller to apply pressure to muscles and joints. It's a tremendous help to rowers, as it loosens tight muscles and promotes blood flow, offering another excellent way to lessen the likelihood of injury and promote recovery.

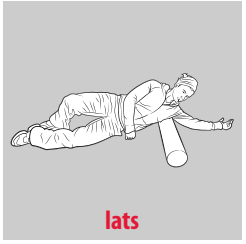
Try to access or purchase foam rollers and/or tennis or floor hockey balls for your rowers to use.

Instructions for Mobility Work

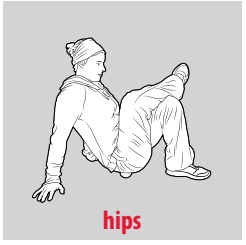
Lie down so you're placing the affected area on top of the roller or ball. Using a rolling motion, apply pressure with a rolling motion for 30-60 seconds. Roll various regions of the body. If there is a spot that's particularly tight, you can spend more time there in an effort to loosen it off. As with all stretches or exercises, start moderately and gradually increase the time you spend rolling each area.

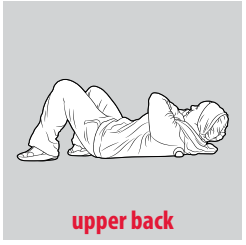
Ideal for the foam roller:

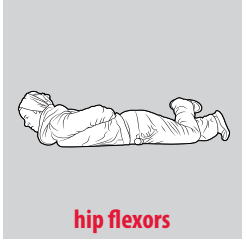


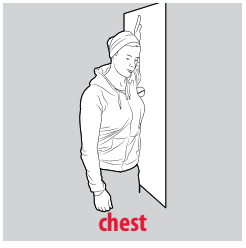


Ideal for the tennis/floor hockey ball:



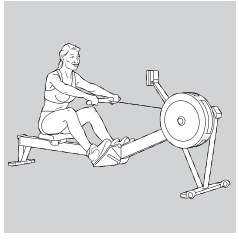






Ergometer Training

Aalbert Van Schothorst



The ergometer is the best form of cross-training for rowing, but only when used properly. All coaches should utilize it as a tool for teaching and ingraining good technique, with a focus on posture, rhythm, effective length and efficient power. Each rower gets individual attention and thus can progress at their own rate. Ensure workouts are in LTAD alignment and are suitable for each individual you're coaching. Skill development is the priority, moreso than speed or exertion.

In the early stages of athletic development, you're focusing on body sequence as it transfers to the water. You do this in erg training by introducing drills which reinforce an idea that will be used on the water, or by giving feedback that would be impossible on the water. Once you establish a given skill with your athletes, your workouts must help them build technical proficiency at this skill. Once a rower has good technical skill on the ergometer, it becomes a tool for them to drive aerobic fitness during non-water days or when the crew gets blown off the water and can't practice.

Encourage your rowers to ask questions, and provide opportunities to clarify or illustrate the skill and how it applies to rowing. By being present and watching the ergometer practice, you'll accelerate your athletes' learning and will ultimately turn out a more accomplished crew.

Skill Progression

Begin by showing your rowers how to set themselves up on the machine: how to hold the handle, adjust the feet, use the screen, adjust drag factor and maintain the ergs by wiping them down after each use. Spending a generous portion of time on these fundamental skills makes future practices more efficient and reduces overall frustration for you.

Once the rower establishes proper sequence and rhythm, you can get going with your ergometer training. When working with beginners, it is essential that you emphasize proper form over hard work. Workouts must allow your rowers to sustain technical proficiency. Begin each workout

by establishing a technical principle as a focus for the practice session. Keep your instructions simple and to the point, and resist the temptation to fix everything at once. Rather, allow your athletes to develop skill with their new knowledge. This builds confidence in themselves and in your coaching.

As your rowers progress to completing pieces with good form and rhythm, you can decide to lengthen the workouts or increase the stroke rate to stretch their capacity.

The most important part of coaching on the ergometer is to be present and paying attention to the rower so you can adjust the training appropriately.

Workouts

The training categories of intensity as listed below show the complexity of an effective training program. Crews in the early stages of learning and training will benefit the most from Categories I, V, and VI as these allow the crew to focus on the most important thing: technique. Category II, III, and IV are listed ONLY for the sake of comparison. If you're doing workouts in these categories, your training is too physically demanding for your crew!

Workouts are listed in order of skill development. Once a crew can complete a workout effectively, they can move to the next workout in that category. For Categories V and VI, be sure to insert and change a drill every 20 strokes or so; this helps train the capacity to sustain mental focus.

The training categories below are meant to achieve the same intensity and heart rate according to the Categories of Intensity document found on page XX. Here, however, you'll find less volume in each workout to ensure ergometer workouts develop and maintain technique and reflect the LTAD stage of the new rower.

Category VI training encompasses all intensities up to aerobic threshold and functions as the foundation for all higher-intensity interval training.

- 4 x 10 minutes – changing rates between 12 and 14 strokes per minute
- 3 x 15 minutes – rates ranging from 18-22 strokes per minute
- 2 x 20 minutes – rates changing from 18-24 strokes per minute

Category V training represents those training intensities between aerobic threshold and anaerobic threshold. Work at this intensity usually functions in long undulating intervals.

- 1 x 15 minutes – rates 22-26 as prescribed
- 1 x 20 minutes – changing rates up 2 beats every 5 minutes (20,22,24,26)
- 1 x 25 minutes – changing rates by 2 beats every 5 minutes (24,26,28,26,24)

Category IV training operates within a narrow band just above and just below anaerobic threshold. This level of training moves anaerobic threshold closer to VO2 max. Cat IV is usually interval work with a focus of 3:1 rest/work ratio.

- 1 x 5 minutes – stroke rate 24-28
- 2 x 5 minutes – stroke rate 24-28 – technical row of 15 minutes between each piece
- 3 x 5 minutes – stroke rate 24-28 – technical row of 15 minutes between each piece

Category III training challenges the intensity between anaerobic threshold and V02 max. Category III training should only be done during the pre-competitive and competitive phases of the year.

- 1 x 4 minutes – stroke rate 26-28
- 3 x 4 minutes – stroke rate 26-30 – change up 2 beats every minute (rest 4 minutes between intervals)
- 4 x 4 minutes – stroke rate 30 (rest 4 minutes between intervals)

Category II focuses as long as possible at V02 max to increase VO2 max and V02 Max endurance. This training should only be done for the final month before a major competition.

- 1 x 1500m @ 2km pace
- 3 x 1.5 minutes @ 1km pace (5 minutes rest between intervals)
- 4 x 1000 meters @ 2km pace (5 minutes rest between intervals)

Category I trains the anaerobic system used in the first 20 seconds and the last 500m of sprint races.

- 4 x 15 second sprints – 30 seconds rest

Para-Rowing Information

Because indoor rowing machines are stationary and, unlike a crew boat, can be used by individuals, indoor rowing classes can accommodate those with diverse fitness abilities. Rowers with visual, physical or hearing impairments can participate with minimal adjustments by class instructors.

Remember that a para-rowing fixed seat suitable for a boat can easily be clamped on to the ergometer.

Try these National Team workouts with your new rowers!

Darcy Marquardt's Favourite Erg Workout

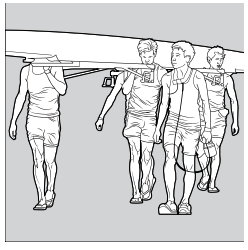
- Crew: HWT women's 2- Gold Eton 2006, HWT women's 8+ Silver London 2012 London 01
- Sprints 8 x 250m, at race pace or above, 2 minutes light technical rowing between 250s.

Andrew Byrnes's Favourite Erg Workout

- Crew: HWT men's 8+ Silver London 2012, HWT men's 8+ Gold Beijing 2008
- Extended pyramid, 2 minutes at each rate, 34 minutes total.
- Rates: 18-20-22-20-22-24-22-24-26-24-22-24-22-20-22-20-18

Rack To Water And Back (Equipment Care and Rigging)

Brenda Taylor



New rowers need to become responsible for basic equipment knowledge and care. They also are responsible for the communication and skill necessary to transport equipment safely to and from the dock, as well as for ensuring safe and comfortable rowing. Rowers must consistently use the correct equipment terms, follow boathouse routines for taking care of the equipment, and identify basic rigging problems and how to correct them. This ensures comfortable and happy rowers, increases water time, decreases preparation time on land and reduces wear and tear on equipment.

Equipment Knowledge

New rowers need to:

- identify and differentiate between the following boat types: 1x, 2x, 2-, 4x, 4-, 8+ (straight and coxed boats);
- identify the following parts of the boat: bow, stern, port, starboard, rigger, oarlock, gate, slides, foot stretchers, gunwales, fin, rudder, deck (bow, stern);
- identify and differentiate between sweep and sculling oars, port and starboard oars; and
- identify the following parts of the oar: handle/grips, shaft, collar/ button, sleeve, spoon/ blade.

Rack to Water and Back

New rowers need to learn basic equipment knowledge and on-land boathandling. Every coach should teach the following equipment knowledge, and provide direct supervision and instruction while following the crew down to the dock safely. As new rowers become more competent and confident, they can be encouraged to take more control and responsibility. This involves becoming competent in handling the equipment safely and efficiently, having respect for others, and following boathouse routines and norms. Rowers will progressively learn additional duties like how to carefully remove and replace seats and riggers.

Before-Row Checklist

Check the boat over before going on the water to ensure it's safe to row. Ensure that:

- all riggers are snug, with all nuts (including top nut) present and tight;
- all height spacers are present (no gap showing on the pin above or below the oarlock);
- all parts are present: seat, footstretchers, bow ball;
- heel ties are down and in place; and
- there is no visible damage to the hull.

Rack to Dock Transport

- Remove oars slowly from racks.
- Carry the oars correctly, blade first, and place them neatly on the dock or shore.
- Safely carry both small and large boats with weight evenly distributed amongst all rowers.
- Place the oars in the oarlock with the blade facing the stern and positioned correctly on port or starboard.
- Ensure the oarlock gate is closed properly.
- Tighten all wing nuts and bolts on slides and footstretchers.

* *Remind rowers that most damage to boats occurs between the dock and the boathouse.*

Launching The Boat

On breezy days, talk about which side of the dock to launch from and return to. Make sure crews regularly practice launching and docking on both sides of the dock. Have them pay attention to the hull and fin when putting the boat in the water. Ensure rowers are close to the edge of the dock and that they work in unison to place the boat gently in the water.

Remind rowers that they should never step into the bottom of the boat or onto the seat deck. Show them that the only safe place to put their foot is on the reinforced part of the seat deck built for that purpose. Teach rowers to stand on one leg, with the oar(s) in their waterside hand and their dockside hand on the gunwale. This teaches them balance and confidence that the boat will not tip, and it reminds them to hang onto the oar(s) when getting in. It's also less awkward and reduces the likelihood of inadvertently stepping or sitting on a weak part of the boat.

Once in the shell, show rowers how to gently lean away from the dock while pushing off directly, or when they're "walking" the boat down to the end of the dock. This way the riggers and oars more easily clear the dock. Rowers can also push off hard together while the bow person prepares to sit up at the catch, and gently spike it away from the dock, pointing the bow out first. Spiking the boat off the dock also prevents blade wear and tear.

Dock to Rack Transport

- Have only one coxswain or rower give commands.
- Enlist the 'no talking' rule for others, except to avoid a collision.
- If needed, clean the hull, slides and wheels after the row.
- Rowers should all know whether the bow or stern goes first into the boathouse.
- Ensure access to the rack is clear of equipment and other people.
- Line up tape markings on the boat and rack for proper storage.
- Tilt the boat slightly as you put it on the rack (with riggers going in first, a bit higher).
- Always check to make sure the boat is resting correctly and evenly on its gunwales (or on its deck, in the case of a 1x, 2x, 2-), and not on the splashguard or riggers.
- Identify and report any equipment damage as per the protocols at your boathouse.

Rigging

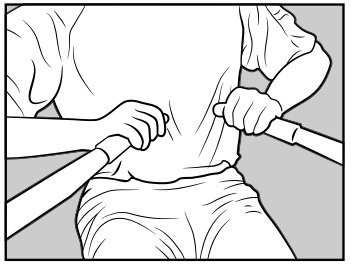
Rowers should be taught basic rigging guidelines. These will help them become independent with the following duties.

The Footstretcher

Moving the footstretchers properly in the longitudinal position and with care prevents damage to the boat. Foot stretchers must:

- be straight and even (side to side);
- rest in the notches in the side and centre tracks; and
- be secured, with tightened side and centre bolts.
- The bottom of the footstretcher must be supported with the centre bolt so the footstretcher doesn't rest on the bottom hull. (Rowers should be shown that, in most boats, they only need to loosen and not remove the side and centre wing nuts to adjust the footstretcher.)

Footstretcher Placement



Proper footstretcher placement is necessary in order to establish good rowing technique. Correctly adjusting the feet toward the bow or the stern of the boat enables the rower to row comfortably, in a position that is biomechanically efficient.

Sculling: The footstretcher should be set so the butt ends of the handles are 15 cm apart when the rower is sitting in the correct finish position.

Sweep: The footstretcher should be set so the butt end of the handle comes just to the outside edge of the athlete's body at the finish position.

COACHING TIP

A good rule of thumb is to ask the rower to sit 90 degrees upright with the legs straight and the butt ends of the handles touching. In this position, there should be about 2-4 cm between the handles and the rower's body. This is an effective check that will allow the rower to row comfortably.

Common Errors in Footstretcher Placement

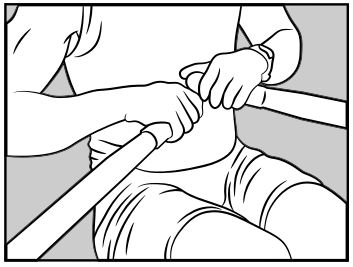
Too far to the bow

Sculling: The oar handles pass the body at the release. The rower feels like they have too much "room" at the finish and may feel like they can't return easily to the entry position.

Sweep: The outside arm is too close to the midline of the body, resulting in an awkward, uncomfortable and inefficient pull and release.

Too far to the stern

Sculling: At the finish, the handles are too close together. The rower feels cramped at the finish and has trouble releasing the blades cleanly.

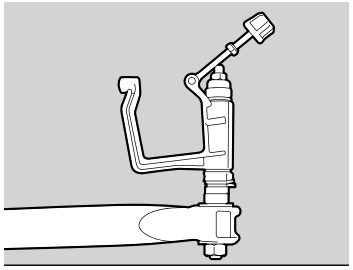


Sweep: At the finish, the handle extends well past the outside of the body and the inside hand passes the midline of the body.

COACHING TIP

Where the foot stretcher sits in the track (the number of notches showing) varies from boat to boat, depending on rigger and track placement. It is important that rowers learn how to place the footstretchers correctly, relative to their rigger and oar handle, and not by simply "counting holes".

Oarlocks



Ensure blades are placed in the oarlock in the right direction with the oarlock facing towards the stern. To determine if the oarlock is set approximately at the correct height, have the rower sit at the finish position, resting the oar(s) on their thighs. The lower edge of the blade should be 10-15 cm off the water. If the blade is too high off the water, move the washers from above the oarlock to below the oarlock. If the blade is too low, add washers below the oarlock until the correct height is achieved.

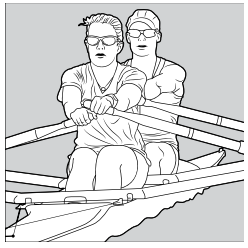
Adjusting the Slides

The slides need to be adjusted so that when the footstretchers are placed properly the rower does not hit the slides' front or backstops. Rowers and coaches should check this when they adjust their footstretchers, and correct their slides if necessary. Care should be taken to loosen but not remove the slide wingnuts and washers.

COACHING TIP

Remind rowers that to achieve accurate adjustments to footstretchers, oar height and slides, they need to be made at the dock, while the rower is sitting in the boat or at the edge of the dock. Crewmates can often help with adjustments.

Boat Handling and RCA Can Row Skills Training



A recent review of the current system of rowing competitions in Canada recommended changes necessary for these competitions to support and be consistent with Long-Term Athlete Development (LTAD). In this (LTAD) Competition Review*, the Coach Education and Development Committee (CEDC) has recommended effective boat handling and basic skills training for new rowers. The inclusion of the RCA CAN ROW Skills Event* into the RCA regatta schedule further encourages this essential skill development.

New rowers of all ages will benefit from practicing these skills daily in a variety of crew, wind and weather conditions. This daily skills training will help beginning crews become competent in a CAN ROW Skills Event and will prepare them for future 2000-metre competitions.

The emphasis on boat handling, skills training and preparation for the RCA CAN ROW Skills Event will provide:

- safe, enjoyable, injury-free rowing;
- practice for good technique while training. Crews that row well technically will be able to perform the skills more effectively including: blade control, timing, balance, posture, rhythm and efficiency, and power application;
- good communication and teamwork (crews will need to agree on the commands, problem solve and be creative while practicing the skills);
- awareness and judgment skills to read and respond to weather and wind conditions, surrounding obstacles, and other boats; and
- skills to race safely and with confidence in sanctioned regattas.

The following basic boat handling skills and skills execution guidelines are included in the RCA CAN ROW Skills Event:

1. Turning: wide turns, sharp turns, spin turns, turning to port and starboard
2. Backing: in a straight line, and steering while backing
3. Steering: aligning, steering a straight course, course correction to port and starboard

4. Stopping: emergency stop, stop from rowing, stop from backing, stop from gliding position
5. Balance: involved in all skills

Crews will learn how to approach and perform each skill by understanding the:

- size of the boat as it relates to boat speed, turning and stopping;
- number of crew necessary to perform each skill (e.g. only two rowers to back into starting gates);
- position of the crew member who assists in turning the boat (bow seat is most effective for turning the bow, stroke seat for turning the stern);
- approaching angle necessary to row around a buoy or into a lane;
- balance, boat speed and steering necessary in all kinds of wind and wave conditions;
- blade pressure and blade depth on port or starboard and how it affects steering; and
- timing of bladework and how it will affect balance, steering and boat run.

If possible, practice performing each skill with buoys that you've set up, or landmarks that you've agreed on. This will help your crew learn and perform the skills accurately.

RCA CAN ROW Skills Event and Coaching Tips

1. BACK AND LOCK

Relevance

This skill simulates approaching and lining up for a race start, including backing the boat into the start gate efficiently and with control, and lining the boat up straight.

Execution

Encourage crews to read the wind conditions and consider their line of approach, and adjust accordingly. Crews should approach the 'race start' at a 90-degree angle and turn their boat, as into a lane, with control.

2. START

Relevance
This skill simulates the race start or the start of a practice piece with the crew preparing to start from a buoy (similar to a boat aligned and still, in the start position). The crew responds to a coach's or starter's commands, holding a straight line and executing race start.

Execution
The crew sits with stern touching a buoy. The boat is still, under control and aligned. On coach's command (flag and verbal), the crew performs a race start. Speed and pressure off the start should be appropriate to the athletes' skill level. Attention to timing and stroke length will help balance the boat and keep it moving in a straight line.

3. EMERGENCY STOP

Relevance
This simulates an emergency stop (to avoid a collision with another boat or obstacle), including responding promptly to crew, coach, or umpire commands.

Execution
The crew, coach or umpire will issue the "Stop!" command at a random time, similar to what might occur in a race. The crew should plan ahead of time how they'll perform a stop. On the water, crews should attempt to come to a complete stop, holding water as quickly and efficiently as possible with balance and control.

4. SQUARE BLADE

Relevance
The square blade skill emphasizes blade control, timing, balance and relaxation. It also encourages keeping blades high off the water in the interests of avoiding obstacles.

Execution
Crews should attempt to row for ten strokes on the square. Crews should strive for a relaxed and correct grip, good pressure on the blade, correct posture, and proper timing at the catch and release to achieve balance throughout the stroke.

5. SPIN TURN

Relevance
This skill simulates turning in a confined space in or on a crowded practice session or course, or when lining up at the start of a race.

Execution
The crew approaches a centre buoy and completes a 360-degree turn. The goal is to "turn on a dime". Crews will determine their approach to the turn, e.g. the use of partial or full slide rowing, backing and rowing on port and starboard, and the leverage advantage of the bow seat.

6. S TURN

Relevance
An S turn simulates the wide continuous turns on port and starboard made during long practice pieces, during headraces, or to avoid obstacles. Emphasize all crew members turning efficiently while maintaining boat speed.

Execution
Anticipate the turn, taking into account boat's momentum. If the turn is tight, one or more rowers can take "air shots" on one side, provided the other rowers continue to row. Remind crews of the turning advantage of bow seat. Encourage them to make adjustments in timing, stroke length and blade pressure to execute the turn.

* Information on the LTAD Competition Review and the complete RCA CAN ROW Skills Event (with videos) including Planning, Course Setup and Scoring are available at www.rowingcanada.org.

RCA Technique And Drills

Volker Nolte

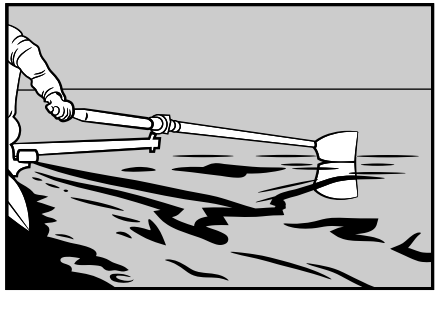
In this chapter, you will find four sections designed to give you information about the four phases of the rowing stroke. These are specifically geared toward coaches at your level.

These sections were developed by four accomplished Canadian coaches. Here you will find their perspectives on how the rowing phases should ideally be taught, as well as specific drills to help with mastering the different phases. Together with the new model of the RCA Technique, found at www.rowingcanada.org, we have a great piece of information for coaches and rowers to shape the movement pattern that they teach and learn.

Teaching the Complete Rowing Stroke

Flow

The task for each coach is to combine all four phases and teach the complete rowing stroke. Each rowing phase sets up for the next; the whole stroke can only be efficient if all phases are smoothly connected. The complete movement must flow, with no stoppages during phases nor abrupt transitions between phases. Getting the complete stroke right also helps bring your crew together, as the movement of each individual rower has to flow in unison with those of the other crew members. By watching the flow of the entire stroke, the coach can detect and, if necessary, correct a given skill by observing the movements of each individual body part and the speed of the rower's hands relative to their body.



Rhythm

The speed of the movements in the different phases must fit together, so that a complete flow of motion occurs. This leads to a proper rhythm within the whole stroke. Relaxation and effort must alternate to give the rower a chance to propel the boat and then recuperate as much as possible to be able to repeat the motion many times over the course of a training session or a race. Proper flow and rhythm allow the boat to run the smoothest, generating the least resistance in the water and maintaining the highest speed for the given effort.

You can measure rhythm by timing the lengths of the recovery phase and the propulsive phase (consisting of the entry, drive and release phases). The quotient of these two quantities is a measure of the rhythm. Of course, rhythm changes when stroke rate varies. While rhythm measures about 3:1 at a stroke rate of 18 SPM, it changes to about 1:1 at race stroke rate.

It is important that rowers be able to produce a phase of relaxation at every stroke rate and speed. You can observe this by watching the boat as it travels through the water: it should run through on the most horizontal path possible. Significant pitching and visible loss of speed are indications of a poor flow and rhythm, while horizontal gliding and constant velocity are positive signs.

Posture

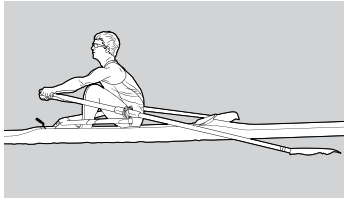
The rower provides propulsion for the whole system (rower-boat-oars), and therefore needs to exert significant forces on the blade. These forces are generated by the rower's many muscles, which work in a highly coordinated way to maximize energy while simultaneously protecting the body from potential injuries. This is only possible when the rower maintains proper posture.

While good posture involves the whole body, our back is the most vulnerable link in the complete kinetic chain. Therefore, you and your rowers must pay special attention to the positioning of the back within the rowing movement. Our backs are strongest when the vertebrae bodies stack vertically on top of each other. However, there's also a natural S-shaped curvature to the spine; posture is optimized when the spinal column is stabilized in this natural profile. This is called the 'natural spine', and it's our model for proper posture. It allows the rower to transfer the forces produced on the footstretcher completely and safely to the handle.

These three features, flow, rhythm and posture, are the links that each coach must focus on in connecting all parts of the stroke together into one smooth unit. A solid understanding of each part of the stroke and the skill to link them effectively makes for successful coaching.

The Entry

Carol Love



The entry of the blade into the water is the movement from the catch position until the moment the blade is locked on and finds the full resistance of the water. It's the beginning of the drive phase. A good entry is smooth and clean. The precision of this movement is one of the most critical parts of the stroke.

Coaches Should Focus On:

1. Body position
   - the back is in a strong position (neutral spine)
   - shins are vertical
   - head and shoulders are held high
   - once blade has entered, the athlete's weight is suspended between the handle and footstretcher
2. Hands and arms
   - rise quickly but smoothly to control the path of the blade
   - the grip is firm yet relaxed
3. Legs
   - strong push-off from the balls of the feet on the footstretchers transfers the power for the blade to move quickly enough to find resistance in the water
   - the legs push to create resistance against the water, creating a pocket behind the blade
4. Blade position
   - square and close to the water
   - good length at entry point
   - the blade enters the water quickly and cleanly

Sequence Explanation

- With correct sequence through recovery, the rower will be in the proper position for the catch.
- The blade is square as the hands move over the footstretcher.

Drills for Improving the Entry

1. Eyes closed: This encourages the rower to feel the weight of the blade in their hands. This drill is very good for the kinesthetic learner.
2. Listen to hear a good catch: The sound will be a "plop". This drill is good for the auditory learner.
3. Rowing in circles: Using one scull, have the rower observe the perfect blade entry. This is a good drill for the visual learner.
4. Wide-grip rowing: For sweep rowers, have the outside hand on the end of the oar and the inside hand somewhat down the shaft. As the rower goes up to the entry, emphasize reducing push-down from the outside hands as they approach top end of the slide.
5. Placement drill: The rower moves from release to entry and then places the blade only; the speed of this can be quite slow as the beginning rower ensures their body position and sequence is correct setting up for a good entry.

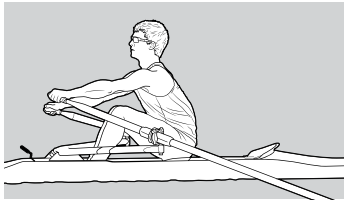
Common Errors

Error	What I would see?	What I could do?	Drills
Shooting the slide	• the rower initiates drive before the blade is locked • seat moves faster than shoulder	• rower to feel a lift off of seat at catch • maintain slow boat and slow recovery to establish proper sequence	• placement drill with stationary boat
Poor blade -seat timing	• arms not straight and/ or upper body angle not set, and rower is not prepared at catch for the precision of the movement	• work on recovery sequence, starting stroke from finish position up to catch • low stroke rates	• eyes closed, listen to hear good catch • wide grip

Error	What I would see?	What I could do?	Drills
Rushing the slide	• rushing into top end • extra movement of body	• aim for constant speed of seat moving towards stern	• eyes closed
Skying at the entry	• blade is very high off the water	• have athlete look at blade height and entry	• placement drill
Missing water at the entry	• hands are low on recovery • blade not squared • initiated drive prior to blade entry	• mark oar angle (e.g. straw) so athlete knows when entry should happen • have athlete observe the V-splash of water at blade entry	• rowing in circles
Tension	• tight grip, bent elbows	• practice entry when boat is stationary • - emphasize relaxed grip	• eyes closed • rowing in circles

The Drive Phase

John Keogh



The drive phase begins once the blade enters the water. This phase is what propels the boat through the water. The drive is the most crucial part of the stroke sequence, with the simple aim of increasing the speed of the rower and boat as much as possible.

Coaches Should Focus On:

1. Grip
   - flat wrists
   - sculling – thumbs around end of the grips
   - sweep – outside hand on the end of the handle
2. Body posture
   - back in a strong position throughout the drive; spine in 'neutral'
3. Body sequence
   - legs initiate the drive
   - trunk opens with the legs mid-drive
   - arms finish the drive
   - goal: to have strong suspension of the body throughout the drive
4. Blade depth
   - top edge of blade stays just covered and at a consistent height during the drive
5. Hull Acceleration
   - after initial short deceleration, the hull of the boat accelerates throughout the drive

Sequence Explanation

Early Drive

Sit in a strong position with a neutral spine and your shins vertical. You should be poised on the balls of your feet. The moment the blade makes contact with the water, push on the footstretcher, driving your heels down to make contact with it. Your trunk should remain in a strong position, as you're simply transferring the load generated by your legs to the blade face. Ideally you should be able to suspend your body weight off the seat by pushing and not pulling.

Mid-Drive

The press through the heels continues to accelerate your body and the boat. Your trunk begins to open and gains momentum. It is critical that the trunk continues to accelerate the boat at this point in the drive.

Late Drive

The strong push through the footstretcher and the strong draw with the arms continue to provide boat acceleration. The 'push' on the footstretcher will continue to activate your thigh, glute and abdominal muscle groups. This in turn provides body stability at the finish of the drive.

Drills for Improving the Drive

1. Part slide rowing, last half of slide: This drill focuses on improving the body and arm co-ordination.
2. Legs only rowing, first half of slide: This focuses on improving how the legs initiate the drive phase.
3. Bungee rowing: Bungee rowing slows the boat and allows the rower to feel the body suspension.
4. Power strokes: This improves the coordination of the muscle groups and improves the force on the blade.

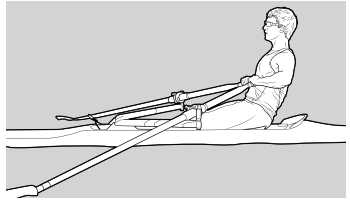
Common Errors

Error	What I would see?	What I could do?	Drills
Trunk opening too early	• trunk opening early or first • blade too deep in the water	• athlete to get their legs and heels down quicker	• legs only rowing

Error	What I would see?	What I could do?	Drills
Blade going too deep	• athlete lifting the hands too high • blade not properly squared	• part-boat rowing to make sure the boat is stable during the drive	• ask the athlete to watch their blade during the drive to relate their hands to the blade
'Shooting' the slide	• legs too quick at the beginning of the drive • seat moves faster than shoulders	• slow the boat down to allow the rower to feel the legs activate and initiate the drive (suspension)	• bungee rowing or part-boat rowing
Drive not co-ordinated	• segmented drive phase	• focus on last half to improve the body and arms coordination	• half slide rowing • power strokes or bungee rowing
Poor posture	• body slumped during the drive and finish	• keep reinforcing neutral spine both on water and in the gym	• single strokes with good posture • increase number of strokes with good posture

The Release Phase

Aalbert Van Schothorst



Controlling the handle(s) and body throughout the release helps to maintain the set of the boat through the release and into the recovery. This harnesses the hull speed developed on the drive.

Coaches Should Focus On:

1. Smooth controlled motions
   - create ease to follow motions from stroke to stroke
2. Proper body position maintained during release from the water
   - torso maintains proper posture (neutral spine)
   - hand (outside hand) keeps pressure on the blade until the end of the drive
   - legs remain pressed down throughout the release
3. Blade exits water smoothly and cleanly
   Sculling (Sweeping)
   - hand (inside hand) functions as fulcrum to tap out from
   - fingers and wrists (of inside hand) control handle in downward and feathering motion
   - hand (outside hand) guides the handle away
   - hand (inside hand) feathers as blade clears the water
4. Solid puddles with foam-free edges
   - blade(s) steps free of the puddle and maintains height off the water while moving forward
   - puddle pulls into itself in a "heart"-shaped vortex
   - push puddles past the stern of the boat consistently

Sequence Explanation

Body Position

Your torso and legs maintain strong positions throughout the release. This creates a stable platform to draw the blade toward, and work the handle away from.

Blade Focus

The blade must release the water while the handle is still moving toward your body. This prevents the air pocket behind the blade from collapsing and sealing the blade into the water.

Handle Grip

A proper release depends on a proper handle grip. You should have a solid purchase on the oar handle so that you can control the rotation of the blade onto the feather by rolling out the fingers of both hands (or your inside hand) rather than by crooking your wrist.

Handle sequence

The motion of the handle during the release should be considered in two parts. First, the handle(s) move toward your body (rower actively pulling) AND down to create the same vertical force on the oarlock, so that the boat is set. Once established, the set creates the room and confidence to allow the handles to move away from your body in a smooth continuous motion.

Drills for Improving the Release

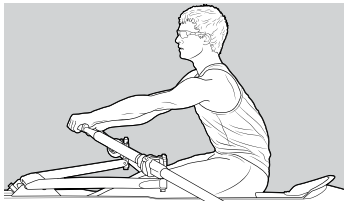
1. Tap drill: Tap out at the release while stationary. This establishes correct sequence on a stable platform.
2. Arms only rowing: This emphasizes the connection to the footstretcher during the last portion of stroke; establishes sequence.
3. Delayed feather: This drill emphasizes stepping the blade out of the puddle.
4. Alternating square/feather: This increases motor skill learning by adding difficulty.
5. Outside hand only/inside hand only: This sweeping drill isolates the responsibilities of each hand.
6. Pause drill: Pausing ensures proper body position at release and proper handle movement to and from release.

Common Errors

Error	What I would see?	What I could do?	Drills
Body position not maintained	• body moving back towards handle before blade steps out	• athlete to hold their body position stable as a target to draw handle to	• pause drill arms only rowing
Blade washes out	• boat falling off to side that does not draw off correctly	• athlete to maintain proper blade depth through to the body target	• outside hand rowing to define the target • tap-out drill
Blade feathered out of the water	• water trailers falling off the end of the blade • ragged puddles	• athlete to focus on stepping handle down before feathering	• delayed feather drills • inside hand rowing
Pressure not maintained on handle	• blade getting stuck at the release, putting brake on run of the boat	• crew should think of maintaining maximum foot pressure through to the release of water	• arms only rowing • outside hand rowing

The Recovery Phase

Michelle Darvill



The recovery phase begins at the finish position after the blade has left the water (release) and before the blade enters the water (entry). The recovery is important because it prepares the rower for the next stroke and helps establish proper ratio and a good rhythm, thereby maximizing rowing efficiency.

Coaches Should Focus On:

1. Sequencing
   - handle leads the body forward
   - body moves from the finish into the set position
   - hands move past knees and weight shifts towards the feet
   - arms fully extend
   - the seat rolls sternward
2. Body position and posture
   - from finish position, body pivots forward through hips
   - back remains in neutral position (firm)
   - after body pivot, position remains consistent into catch
   - head moves horizontally and is centred on the vertical axis of the body
   - shoulders remain relaxed
3. Blade height
   - pressure down on handle to maintain proper height
   - relaxed grip
   - flat wrists

Sequence Explanation

Early Recovery

Your hands will move away from and lead your body forward, pivoting from the hips. Your weight or pressure on the seat shifts forward. Your knees remain down until your hands pass them. Once the handles pass your knees and your arms are fully extended, your body angle is set (set position). You should have a relaxed grip on the handle. Flatten your wrists

and use subtle pressure of the forearm to maintain proper height. Your blade should be kept high enough off the water to enable it to rotate onto the square and allow the lower edge of the blade to stay off the water. Your weight starts to shift toward your feet.

Mid-Recovery

Your body angle stays set. Your knees rise and the seat rolls towards the stern. The speed on the slide is constant and the boat moves smoothly beneath you. Keep proper blade height with a relaxed grip, flat wrists and maintaining pressure on the handle.

Late Recovery

Your weight is loaded fully onto the footstretchers as your seat approaches the end of the slide. Maintain a relaxed grip on the handle as you turn the blades on to the square. The handle rises to bring the blade to the water. Your body and head remain in a firm upright position. Your body then comes into full compression (shins vertical) on the slide. The angle of your body is still in the set position.

Drills for Improving the Recovery

1. Pause drills: Pause every 2 or 3 strokes to emphasize continuous rowing.
   - Option #1: arms and body swing – to emphasize hands, body in correct position before the slide starts to move
   - Option #2: ½ slide pause – rower pauses at ½ slide to emphasize the stillness while maintaining set body position as the entry is approached
2. Low-rate rowing: This serves to slow the whole stroke down, forcing constant speed and control on the slide. It also provides time to work on the balance. Stroke rate should be 16 SPM or less and rowed with firm pressure to assist with balance.
3. Bungee rowing: Added resistance by securing a bungee or strap around the hull and/or rigger of the boat forces the boat to slow down. This provides time to set the body in the proper sequence. Feel for boat run is increased upon removal of the bungee.
   *Have more than one rower performing low rate and bungee rowing to decrease the workload on a new rower.

4. Square blade rowing and variations (delayed feather, early square, alternating feather/square/feather mid-recovery): This is to emphasize the need to have a consistent blade height off the water.
5. Cut-the-cake drill: From the release, let the boat flow under you during the first part of the recovery. Go to arms away, then back to the release, then arms away again as you complete the stroke as normal.
6. Open finger: The rower pushes down on the handle with the palms without closing the fingers around the handle(s) during recovery. This emphasizes relaxed shoulders and grip, and the downward pressure from the forearms to achieve proper blade height.

Common Errors

Error	What I would see?	What I could do?	Drills
Knees break too early	• handle hitting knees or blade hitting water	• hold the knees down until handle moves past knees • emphasize holding knees down longer	• pause drill at arms and body swing, and at half-slide
Body keeps moving forward/ downward after set	• bent-forward body; rowers look into the boat; blade skies • body keeps moving forward/ downward after set	• keep head and chest up into catch position and body is in complete set position	• pause drill at arms and body swing, and half slide

Error	What I would see?	What I could do?	Drills
Rushed approach to entry	• momentum causes weight to hit footstretchers too quickly and causes the stern to check, hindering the run-out of the boat	• keep body stable after set position and move the seat to the heels	• low rates • bungee rowing
Blade is too close to water on the recovery	• blade may hit the water, causing the boat to slow down and/ or upset the balance	• move forearms down through elbows • ensure pressure downward on handle	• square blade rowing and variations • cut-the-cake drill • open finger

Building A Practice

Aalbert Van Schothorst

Coach and program success relies on developing trust among and between the respective rowers, parents, and other involved coaches and club members. Managing a practice well helps coaches to build that trust. Approach your practice with the mutually supportive goals of working on time, with purpose, and together – and you'll build a strong, responsive and respectful team.

On Time

Beginner coaches often make ambitious practice plans that don't take into account the smaller time-consumers (e.g. changing clothes, moving equipment around, stretching).

Use a stopwatch and the template below to observe how your crew operates in your training environment. Once you have confirmed the arrival, launch, return and dismissal portions of the practice, you will be able to plan the actual on-water warm-up, workout and cool-down sections. Be sure to communicate with your rowers the value of time management in creating a successful crew!

** Ensure your on-water time accommodates turnaround, coaching and rest time. Stay flexible, as unforeseen circumstances can arise such as wind delays and equipment fixes.*

Arrival Time

_____Athletes changed and in meeting place

_____Explanation of goals of practice, equipment, safety, etc.

_____Start of dynamic warm-up

Launch Time

_____Carrying boats down to dock; launching

_____Crews row to meeting place to start workout

_____Warm-up portion

Workout

_____Skills and drills portion

_____Strength/endurance portion

_____Turning boats, rest, coaching time

Return to dock

_____Return time to the dock from last work run

_____Wash and return boats to racks

_____Debrief/stretch

Dismissal Time

_____

** Respect the stated end time of your practice...rowers have other life commitments!*

With Purpose

The rowing stroke is usually broken down into four phases: entry, drive, release and recovery. Most coaches do an effective job of building out these component parts. To take the coaching skills to the next level, you'll need to reinforce how the entry, drive, release and recovery phases relate to producing stroke length, power and rhythm.

Below is an example of practice planning with the weekly themes of length, power and rhythm. Specific parts of the rowing stroke are coached once per week under these themes, which promotes continual development of the whole stroke cycle.

Week 1 Theme: Effective stroke length
Practice 1 - Entry
Practice 2 - Drive
Practice 3 - Release
Practice 4 - Recovery

Week 2 Theme: Power application
Practice 1 - Entry
Practice 2 - Drive
Practice 3 - Release
Practice 4- Recovery

Week 3 Theme: Harnessing length and power to produce rhythm
Practice 1 - Entry
Practice 2 - Drive
Practice 3 - Release
Practice 4- Recovery

Working through this cycle repetitively allows a coach to layer complexity into each practice as the development of the rower allows. In the early stages, coaches will include the technical (e.g. blade depth for entry) and physical components (e.g. wrists at the entry) of the skill. As a new rower develops and approaches competition, the focus shifts to include the mental (e.g. focus on clean entry) and strategic (e.g. focus on entry at start of race) processes required to ensure that the skill maintains itself under competition pressure.

*Use the NCCP RCA Coach *Practice Plan* and *Categories of Intensity* to build your practice. (Ensure technique, workout intensity and length are adjusted and progress appropriately according to the LTAD stage of the athlete.)

Together

Based on the above practice example, a training group (e.g. a complete junior program) can follow this outline to establish the same learning outcomes for each training day. This develops optimal learning and unity within and among crews, coaches and the program.

This focused program can also be flexible and still reach the practice goals. A rower can fill in with another crew and be confident that they will understand the practice principles. A coach can also manage another coach's practice and impart the appropriate skills required for that day.

Coaches can have beneficial post-practice discussions, as their coaching peer(s) will have had the same practice focus. Weekly or monthly coaches' meetings support this valuable knowledge exchange, providing an opportunity for coaches to share their successes and challenges from practice sessions. This peer-to-peer coaching, encouragement and development also builds rower trust and respect in the program.

As you build your practice, rowers and coaching team, a good benchmark to use in measuring your success is to ask yourself whether:

✓ Everyone shows up on time
✓ The attitude around your club is positive
✓ Respect for the equipment develops
✓ A good community reputation develops
✓ Your rowers CAN ROW faster
✓ Your rowers CAN ROW better

If so, guess what? You're setting the stage so that your rowers CAN ROW for life!

Evaluating Your Practice

Carolyn Trono

Providing an exciting and productive training environment for rowers is crucial to their enjoyment and success in rowing. By success, we don't necessarily mean winning. In these early stages, we are talking about becoming proficient in the rowing skills and abilities outlined in RCA Long-Term Athlete Development model.

The role of the coach is critical to this. This simple checklist (from NCCP LTR Instructor & RCA Coach Evaluation) can be used as an opportunity for self-reflection or you can ask a coaching peer to observe your practice and provide feedback.

- Do you do a safety check of equipment (shells, motor boat, etc.) prior to going on the water?
- At the beginning of practice, do you explain the purpose of the session, providing enough details, demonstrations and supervision to ensure clarity with the rowers?
- Are the instructions clear and concise given the age and stage of the participants?
- Do you check for understanding with your rowers?
- Do you limit your feedback or corrections to one or two items?
- Do you provide appropriate supervision to ensure the equipment is not damaged?
- Are crews and equipment organized at the boathouse, so that rowing time is maximized?
- Does your practice begin and finish on time?
- Do you have a practice plan? Can you adapt that practice plan when unforeseen circumstances arise? (weather, injury etc.)
- When you speak to the rowers on the water, can they hear you?
- When you provide instructions, do you try to accommodate different learning styles?
- Are drills and skills at a developmentally appropriate level for the rowers you are coaching?
- On the water, do you manage crews, time and space appropriately to ensure coaching instructions are well received?

- Do you give safety due consideration as you manage your crews, time and space?
- Do you drive the motorboat in a safe and courteous manner?
- Are most of the rowers active the majority of the time?
- Do you conclude with a short practice debrief once off the water?

As coaches, we need to be constantly evaluating ourselves and not just our rowers. It's only through true reflection and feedback from others that we can assess our strengths and limitations, and then take action to improve the quality of our coaching.

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March 2013