



**ROWING  
CANADA  
AVIRON**















# LEARN TO ROW

**PARTICIPANT HANDBOOK #2**

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	<b>4</b> Welcome Back	
	<b>5</b> Safety Recap	
	<b>6</b> Equipment	
	<b>9</b> Grip and Balance	
	<b>10</b> Rhythm and Efficiency	
	<b>11</b> Technique	
	<b>15</b> Drills	
	<b>16</b> What Does a Coxswain Do?	
	<b>17</b> Training for Rowing	



# WELCOME BACK!

We are thrilled that you have chosen to continue your rowing journey! Use this handbook as a resource to further enhance your skills and knowledge, and to deepen your love for the sport.

Building on the foundational skills and knowledge you've already acquired, this handbook provides a more comprehensive understanding of rowing techniques and training methods. Whether you aspire to compete at higher levels or simply wish to refine your skills for recreational enjoyment, this guide will support your continued development.



# SAFETY RECAP AND REMINDER

In your introduction to rowing program, you should have been briefed on the essential safety procedures of your club. It's crucial for both rowers and coaches to remain aware of their responsibilities concerning personal safety, the safety of others, and the proper handling of equipment.

Please make sure to review the RCA safety modules available on our website to refresh your understanding. Additionally, you can take the quiz questions provided to test your knowledge and ensure you're always well-prepared.



Access the safety modules and quizzes here:  
[safety.rowingcanada.org/en](https://safety.rowingcanada.org/en)

## WEATHER PATTERNS – YOUR CLUB WILL HAVE GUIDELINES FOR ROWING IN ALL WEATHER CONDITIONS.

You should also be familiar with the local weather and water conditions on the day you plan to row (e.g. fog, thunderstorms, ice, strong winds, rough or cold water). This determines if it is safe to launch. Educated crews make safe decisions.

### BASIC GUIDELINES:

**WIND:** A strong wind can make the water rough. At some rowing clubs, you might be able to row to a sheltered bay and row in calm water. However, you and your coach must determine whether the wind will get stronger. Will you be able to row back to the dock safely?

Sometimes gusty winds or winds changing direction are an indication of a thunderstorm approaching. As a general guideline, if there are white caps, it is advised that crews do not go on the water.

**FOG:** This is primarily a concern for those situated in the coastal regions. Do not row in fog. Not only can you not see where you are going, it is extremely easy to lose your sense of direction in the fog.

# EQUIPMENT

## CARRYING BOATS FROM BOAT RACK TO DOCK

### SINGLE:

- Can be carried alone or with a partner.
- When carrying with a partner, have one person at the bow and the other at the stern.
- Lift together and place it in the water at the same time.

### DOUBLE/PAIR/FOUR/QUAD:

- Requires two or more people to carry.
- Have one person at each end and spaced evenly along the boat, standing on the dockside.
- Hold the shell in the crook of your arm, keeping one arm free to assist in rolling the boat into the water.
- Always lift together.

### COXED FOURS/EIGHTS:

- Coxswain leads instructions.
- Important to listen and carry out instructions as a team.



## BASIC EQUIPMENT KNOWLEDGE

Here is some basic equipment knowledge so you can identify an issue and ensure a safe and comfortable row. Rowing clubs and coaches will check equipment as well prior to your row!

### OARLOCKS: (1)

- 1. Missing Height Spacers:** If there are missing height spacers, the oarlock will move up and down on the pin causing the oar to shift around during the drive and recovery.
- 2. Top Nut:** It is not unusual for the top nut to be missing, loose, or just not fitting correctly. This is a problem because it can create wear and tear on the equipment. If the top nut is missing, your backstay could pop off and so could the oarlock.
- 3. Loose Rigger:** Sometimes the nuts on the rigger can become loose. Before you go on the water, check to make sure that the rigger doesn't move. If it does, mention it to your coach. The problems with a loose rigger include wear and tear on the equipment and difficulty performing the rowing stroke.



### FOOTSTRETCHERS: (2)

- 1. Heel String:** It is absolutely critical that if you are rowing in a boat with shoes, that there is a string tied from the footboard to the heel of the boat shoe. This must be tied. The string is there to hold the heel of the shoe down if you ever needed to get your feet out in a hurry. Sometimes these strings break, are worn, or are simply not tied down. This is an important safety issue.
- 2. Thumb Screws and Wing Nuts:** On your footboards, you should have two wing nuts and a thumb screw. These serve to hold the footboards in position. Without these, there will be wear and tear on the equipment and your foot boards will wiggle around when you drive.



- 3. Why and Which Way to Move Footstretchers:** In sweep, rowers should start by setting their footstretchers so that the butt end of the handle comes just to the outside edge of their body at the release position. This is a good initial setting. In sculling boats, the initial setting should be made so that the butt ends of the sculling handles are 15cm apart at the release position.

## CLEANING EQUIPMENT AFTER THE ROW

The equipment is extremely expensive. By taking care of the equipment, it is hoped that you will avoid problems on the water.

**WHY CLEAN THE SEAT AND SLIDES/TRACKS:** It is important to keep the seat and the slides/tracks clean because there will be undue wear and tear on the equipment that may eventually lead to equipment breakage.

As well, you may find when you are rowing that you feel the seat wheels jamming or experience the sensation of a "bumpy" recovery. This may be caused by excessive grit and dirt on the slides/tracks.

**WHY CLEAN THE HULL/BOAT SHELL AND OARS:** Cleaning the oars and the hull/boat shell prevents build-up of dirt and grime. It's especially important to do after rowing in salt water as the salt is corrosive and damages the equipment if not washed off regularly. Pay special attention to the collars and earlocks.



# GRIP AND BALANCE

## GRIP REVIEW:

Remember a relaxed grip! Be aware of the positioning of your hands on the oar in sweep or sculling.

## BALANCE:

Balance is an important part of the rowing skill. It will come with practice and concentration. At this stage, you may only be able to get your shell balanced 50% of the time. When it happens, it is an unbelievable feeling.

## HOW DO YOU BALANCE A BOAT?

Balancing a boat is achieved as technique improves and the timing of the crew and each part of the stroke comes together.

## WHY DO YOU WANT TO BALANCE THE BOAT?

There are a number of reasons:

1. Comfort
2. Confidence
3. Efficiency
4. Technique

## BOAT HANDLING SKILLS:

This is an important part of being a rower. As you gain confidence, you will be able to perform more of the boat maneuvering skills. By working on these, you will gain a sense of independence.

Remember that the wind, currents, and water conditions will have an effect on your boat handling skills.

These are the boat maneuvers that you will need to work on:

1. Turn the boat 360 degrees using port only
2. Turn the boat 360 degrees using starboard only
3. Backing the boat
4. Launch and dock boat without the assistance of the coach
5. All crew members stop the boat together



# RHYTHM AND EFFICIENCY

As you begin to refine your technique, you will gain a better understanding of how the rowing shell moves and what you can do to make it move faster and more efficiently. Rowing is a continuous cyclical movement of the drive and relaxation during the recovery. Rhythm is the ratio between the time of the drive and that of the recovery.

## Learning About Rhythm and Efficiency:

You need to take the time to relax as the boat is moving on the recovery. After the blade is free of the water at the release, movements should be slow and deliberate enough so that you (and your crew) can relax the grip, the forearms, the shoulders and even the facial muscles.

As you gain more experience and confidence in the boat, you can begin to increase the stroke rate and the pressure on the oar.

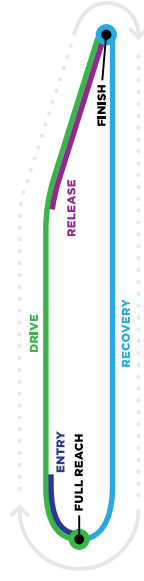
When you row in a single and use the approach as described above, you will get an immediate response on how your boat is moving through the water.



ROWING CANADA ARCHIVE

# TECHNIQUE

## TRAJECTORY OF THE OAR HANDLE



## THE CATCH/THE ENTRY (1)



**AIM:** To place the spoon of the blade(s) in the water from the position of maximum length; to apply the push to the blade immediately.

1. This is the entry position. Minimize the time when you are sitting at the entry with your weight on the foot stretchers.
2. The blade must be locked in the water before the leg drive off the footstretchers.

## THIS IS WHERE THE BOAT IS MOVING THE SLOWEST

- At the instant that your seat arrives at the top of the slide, the blade should be placed in the water using the outside arm (in sweep). In sculling, both arms are used to place the blades in the water. The catch/entry needs to occur before the leg drive begins. This ensures that the blade is buried and that the leg drive is effective in moving the boat through the water.
- Avoid trying to slam the entry which causes the blade to be buried too deep in the water. The catch/entry is a small movement with the hands lifting to only cover the spoon of the blade.

## THE DRIVE (2)



**AIM:** To apply full force of the leg drive smoothly while the body swings open with the arms and hands continuing the acceleration of the boat to the finish position.

1. Apply the leg drive as soon as the blade has been placed into the water in order to lock the spoon into place. The push should be applied only from the feet, keeping the back and shoulders strong, and the arms straight.
2. The legs should come down smoothly with the body beginning to open up halfway through the drive. The arms should still be straight with back locked and the rower "hanging off" the handle of the blade.
3. The arms are used to finish off the drive portion of the stroke. Legs, back, arms - all body and leg movements are connected and work smoothly in unison during the drive.

## THE RELEASE (3)



**AIM:** The goal is to extract the blade cleanly out of the water. This is when the boat is moving its fastest.

1. A properly executed finish involves a "draw and squeeze" rather than a pull or "tug". The release happens in a controlled way with the hands pushing down and the blade coming out on the square.
2. The elbows and hands move continuously, drawing the handle to the body and then away with a relaxed grip.



## REFINING THE RELEASE ACTION - CLEAN CRISP BLADEWORK

### SWEEP

As the handle reaches below the chest, the outside arm in sweep should be used to tap the blade down with the inside arm and hand used to feather the oar. The blade must remain square until it is fully extracted from the water.

### SCULLING

As the handles reach below the chest, both hands press to tap the blades down. As in sweep, the blades must remain square until they are fully extracted from the water.

## HOW TO FEATHER YOUR BLADE WITHOUT BENDING YOUR WRISTS

1. **Hold the Oar Correctly:** Make sure the handle of the oar sits comfortably in the middle part of your fingers.
2. **Square Position:** When the blade is straight (square), the handle should be in the middle of your fingers.
3. **Feathering Action:** To feather the blade (make it flat), gently roll the handle towards the tips of your fingers.
4. **Keep Wrists Straight:** Make sure your wrists are mostly straight with little bending or arching at the release.



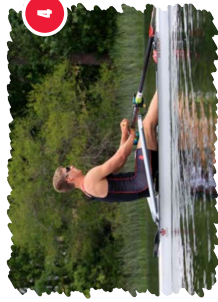
## THE RECOVERY (4)



**AIM:** To have a relaxed and continuous movement with proper sequencing of the arms, back, and legs.

1. The body position should remain relaxed and should not change once the body is rocked over.
2. The slide forward should be at an even pace, with no rush to the top of the slide.
3. As the boat moves beneath the rower and the seat moves toward the top of the slide, there will be a gradual transfer of the weight of the rower from the seat to the footboard, building pressure on the feet.
4. When sweeping, the rower should use the inside arm to square the blade as it moves over the feet and let the hands gently rise into the catch. In sculling, both hands are involved in the squaring action.

**!** **REMEMBER:** this is where you want to minimize any vertical movements and move horizontally through the recovery.



## RHYTHM VS. RATIO

Rowing with good rhythm requires the rower to not rush the recovery portion of the stroke. Ratio refers to the amount of time spent on the recovery. In general, you are looking to row smoothly with the recovery taking slightly longer than the drive, ideally a 1:2 or 1:3 drive-recovery ratio.



# DRILLS

In Learn to Row Participant Handbook #1, you were provided beginning drills, body positions, and blade work. Below are some additional drills to help you refine the rowing stroke.

## DRILLS TO PRACTICE



### 1. ONE-HAND ROWING:

One-hand rowing is a drill that can be used for a variety of purposes. In sculling, your coach may ask you to row with only one oar. In the sweep version, you can alternate between the inside and outside hand rowing on its own. This reinforces the placement of the hand on the oar, a relaxed grip, and learning the square/feather motion.



### 2. QUARTER/HALF/THREE QUARTERS SLIDE ROWING:

During this drill, rowers execute only a portion of the full rowing stroke. During the quarter slide drill, rowers only proceed up the slide a quarter of the full length of the recovery and the drive is only the last quarter of the drive portion. Continue this drill with half of the recovery/drive and three quarters of the recovery/drive for the other drill options. The purpose of this drill is to simplify the stroke and allow the rower to understand the sequencing and proper execution of each phase of the stroke.



### 3. FEET OUT ROWING:

Rowers remove their feet from the shoes/clogs in the boat and place their feet on top of the shoes/clogs. This drill helps the rower's posture at the finish of the stroke and maintains the power connection between the blade in the water and the pressure on the footstretcher throughout the drive.

## HERE ARE SOME THINGS TO THINK ABOUT WHEN YOU USE DRILLS:

1. Know what you are supposed to focus your attention on. If you don't understand what the purpose of the drill is, ask your coach.
2. A drill can be used for a number of different things. For example, the square blade drill can help work on the release as well as the recovery.
3. In most cases, it is very helpful to have the boat balanced when doing a drill. Therefore, you may wish to row in pairs (if you are rowing in a quad or a four).
4. It is also helpful to do drills in relatively calm water. This will help you learn or re-learn a certain movement pattern before you work in rougher water conditions.

# WHAT DOES A COXSWAIN DO?

Coxing is an exciting and unique position. Unlike most positions in sport, coxing is mostly non-physical. Historically, the role of a coxswain was to steer the boat and to command the rowers to start rowing, stop rowing, or adjust as necessary. As the sport has developed, so too has the role of the coxswain.

Nowadays, good coxswains combine elements of steering, race strategy, technical coaching, and motivation to help their crews reach their potential. Coxswains do not physically row the boat, but they contribute to its speed by providing leadership and direction to the rowers. They also may train with the crew during dryland practices. They are often relied upon to know or organize such things as race times, course flow patterns, or rigging. Many people refer to coxswains as the “coach within the boat”. This may be so, but it is important to recognize that coxswains are really part of the crew. They require practice and coaching, and should be given the same support that rowers receive.

Fundamentally, a coxswain’s role is to make it as easy as possible for the rowers to perform at their best. When making a decision, saying a call, or steering the boat, the coxswain should always ask: “Will this make the crew better or faster?” If it will, then it’s the right thing to do.



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# TRAINING FOR ROWING

Whether you are training for a sprint, 1000 meter Masters race, 2000 metre race, or rowing for fitness, the majority of training time is spent on improving endurance. Endurance training involves rowing at low intensities to stimulate the aerobic system, improving the ability of the heart and circulatory system to carry oxygen-rich blood to the exercising muscles. Based on your goals, ask your coach for further direction on how to supplement your rowing with strength and flexibility training and to decrease your chance of injury.

## LEVELS OF TRAINING INTENSITY

A number of years ago, some of Canada’s leading coaches developed a system to categorize and determine the intensity and focus of each practice session. This system is used by Canada’s National Rowing Team and by local rowing clubs for their competitive teams. It can easily be adapted and used by rowers at all levels. The important thing when you begin rowing is to prioritize technique, fun, and training within your comfort zone. As you progress, the level of intensity for training will build with the program and coach instruction.

INTENSITY CATEGORY	APPROX. HEART RATE RANGE	DURATION ONE PICE (MIN)	RATIO WORK:REST	GOALS OF THE TRAINING INTENSITY	PRACTICAL EXAMPLES	LACTATE LEVEL (MMOL/L)
I	Maximum Heart Rate	0.5 – 1.5	1:4 – 1:5	<ul style="list-style-type: none"> <li>Aerobic capacity</li> <li>Transportation = development of cardiopulmonary system</li> <li>Ability and feeling at start</li> </ul>	<ul style="list-style-type: none"> <li>Interval training (short pieces) of 1 – 2 min, 60 strokes or series 1 – 2 min.</li> <li>Stroke Rate: greater than race stroke rate</li> </ul>	> 10
II	Maximum Heart Rate	2 – 7	1:2 – 1:3	<ul style="list-style-type: none"> <li>Race Endurance</li> <li>Transportation = development of cardiopulmonary system</li> <li>Race speed feeling</li> </ul>	<ul style="list-style-type: none"> <li>Race over 1500 – 2000m</li> <li>6 x 2 min</li> <li>3 x 1000m</li> <li>5 x 750m</li> </ul>	8 – 14
III	Maximum Heart Rate	6 – 10	2:2 – 1:2	<ul style="list-style-type: none"> <li>Development of aerobic capacity</li> <li>Strength endurance</li> <li>Tactics</li> <li>Technique</li> </ul>	<ul style="list-style-type: none"> <li>4 x 7 min</li> <li>3 x 2000m constant speed</li> <li>5 x 5 min strength endurance water</li> </ul>	5 – 8
IV	165 – 175	10 – 45	4:1	<ul style="list-style-type: none"> <li>Anaerobic threshold capacity</li> <li>Development of aerobic capacity</li> <li>Efficiency</li> <li>Strength endurance</li> </ul>	<ul style="list-style-type: none"> <li>2 x 20 min with stroke rate change</li> <li>3 x 5km time – control</li> <li>10km head – race</li> <li>3 x 12 min strength endurance water</li> </ul>	- 4
V	150 – 165	30 – 90	-	<ul style="list-style-type: none"> <li>Basic endurance</li> <li>Utilization of aerobic capacity</li> <li>Maintenance</li> <li>Technique</li> </ul>	<ul style="list-style-type: none"> <li>30 – 90 min steady rate</li> <li>Stroke Rate: 10 – 12 less than race stroke rate</li> </ul>	- 3
VI	135 – 150	> 45	-	<ul style="list-style-type: none"> <li>Utilization of aerobic capacity</li> <li>Regeneration</li> <li>Maintenance</li> <li>Technique</li> </ul>	<ul style="list-style-type: none"> <li>45 – 120 min steady rate</li> <li>Stroke Rate: 18 – 24 / min</li> </ul>	< 2

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