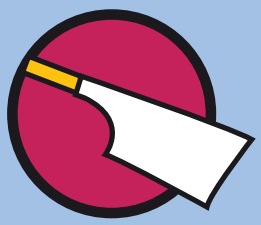

LEARN TO ROW

JOURNEY

2

SKILLS PROGRAM

ROWING CANADA AVIRON

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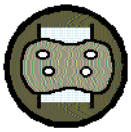


Welcome to Journey 2

INTRODUCTION

You have successfully completed Journey 1 and have decided to join a rowing club. Congratulations!
As you embark on this Journey, the focus will shift slightly from learning the basic skills to fitness, drills and skills. The Journey Passport outlines some of the key features including refining the skills, but working towards fitness and adding more rowing challenges.

WHY ROW?

> "Rowing is excellent for improving overall health and fitness. Being a full body aerobic exercise, rowing can help improve strength, decrease blood pressure, lower cholesterol, decrease weight and decrease the chance of heart attack and stroke. Regular physical activity, like rowing, can improve self esteem and help in coping with stress"
>
> ED MCNEELY
> RCA CONSULTANT

> "It's a combination of fun, fitness and friends. All of these things make rowing great."
>
> Sarah Conci, 19,
> Winnipeg Rowing Club

Safety

SAFETY IS STILL THE MOST IMPORTANT SKILL!

Remember these rules about safety:

- Always have an approved PFD (Personal Flotation Device) in your shell or in the accompanying motor boat
- stay with the boat if it capsizes or overturns
- in an emergency, use the oar or the boat as a flotation device
- NEVER row alone or in the dark
- always follow the traffic flow patterns at your club

EMERGENCY STOP

Here is another skill important to your safety.

As you begin to feel more stable and confident in your skill level, your boat will be moving faster. Although this does not happen often, occasionally you will need to stop your shell very quickly to prevent smashing into something such as a dock or another boat.

Your coxswain or coach will yell “Let ‘er run and hold water”!!

At that time, you and your crew stop rowing, at the release position and place your blades on the water and square them enough to “hold water”.
As you get more experiences you will be able to dig the blades in on the square and stop the boat. However, you must build up your balancing skills especially if you are in a single.
Remember you should be in the safety position when you place the blades in the water!

Here’s how you can practice

1. Row three strokes, let ‘er run, with blades on the water - feathered.
2. Row three strokes, let ‘er run, with blades in the safety position roll the blades slightly onto the square.
3. Row three strokes at ¾ pressure, let ‘er run, repeat as above

As you refine your rowing skills, this will become easier!

COAST GUARD REGULATIONS:

“If the coach boat is not with you, there must be a life jacket for each crew member and a sound signalling device.”

Safe Boating Guide
CANADA COAST GUARD

EMERGENCY STOP

Hopefully, you won't have to do an emergency stop if you follow these rules:

1) Always follow your club's traffic flow pattern
2) Check over your shoulder every few strokes
3) Try to have a sense of where the other boats are on the course

Keep you eyes on the clouds for clues to changes in weather patterns

WEATHER PATTERNS

Weather plays an important role in the day-to-day activities of the rowing club. Wind, rain, storms and sun all have an impact on what you will do for your workout. Will you go on the water? Will you wear different rowing gear? Will you row in a certain area due to rough water?

It is not expected that you will be able to forecast the weather. However, it is important for you to recognize some of the indicators of bad weather approaching.

Canada is a huge country and each area has particular signs that inclement weather is approaching. This may include shapes and kinds of clouds, wind, and air temperature. In most areas, Environment Canada (Atmospheric Environment Service) provides information about marine weather and specific to the region. It is important to contact the appropriate weather forecasting agency. Please contact your local Environment Canada office for details about your area.

BELOW ARE SOME 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 instructor 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.

CLOUDS: Clouds provide one of the keys to understanding weather. At this stage, it important to know the "cumulonimbus" cloud. This is an indication that that there could be a thunderstorm approaching.

SIGNS OF THUNDERSTORMS

- darkening sky
- cool wind increasing
- thunder

PLAY IT SAFE - HEAD FOR SHORE EARLY!

Equipment

SEAT AND RUNNERS

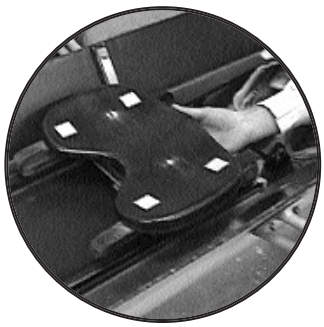
CLEANING: Using a relatively clean rag and warm water, place rag in the runners and clean up and down each one. Don't be surprised if you produce lots of black dirt. Keep rubbing until the runners are clean.
To clean the seat, focus primarily on the wheels and wipe off any grit. While you are inspecting the seat, make sure that the wheels aren't loose.
WHY CLEAN THE SEAT AND RUNNERS?
It is important to keep the seat and the runners 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 runners.

THE OARLOCK

CLEANING: using a relatively clean rag and water, wipe the face of the oarlock and remove any grit.
WHY CLEAN THE OARLOCK? Again, any dirt or grit can create unnecessary wear and tear on the equipment. The equipment is extremely expensive. By taking care of the equipment, it is hoped that you will avoid problems on the water.

REMOVING THE SEAT

When removing the seat from the runners, move the undercarriage forward. Roll the seat forward to the front of the stern edge of the runners. The seat should come off of the front of the track with a gentle nudge.



REMOVING THE SEAT

REPLACING THE SEAT

In order to replace the seat, move the undercarriage toward the bow edge of the seat. Align the carriage wheels with the runners. The four seat wheel should be relatively low so that the wheels can slip onto the runners. With a gentle push, the seat should slide on easily.

REPLACING THE SEAT

BEFORE GOING ON THE WATER

CHECK YOUR RIGGER CAREFULLY.

MAKE SURE:

1. TOP NUTS ARE TIGHT

2. ALL HEIGHT SPACERS ARE ON

3. RIGGER IS SNUG

SHOES
Notice the heel straps

BASIC EQUIPMENT PROBLEMS

Here are some basic equipment problems that are common. It is important for you to be able to recognize equipment problems and report them to the instructor.

ON THE RIGGER

Oarlocks:

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 instructor. The problems with a loose rigger include wear and tear on the equipment and difficulty performing the rowing stroke.

Footstretchers:

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 running 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 simply not tied down. This is an important safety issue.
2. **Leather Clogs**: The leather in the clogs should be attached to the footboards. Sometimes the rivets come undone or the leather just rips. It is a problem because you may feel like you are falling out of the footstretchers or you may get blisters.
3. **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.

CARRYING SMALL BOATS

Rowing a double, a pair or a single can be lots of fun. Below you will see pictures demonstrating how to carry these small boats. They aren't really small - a single is nine metres long and a double is 11 metres long.

SINGLE

You will notice that you can carry a single in two ways - by yourself or with a partner. Initially, you may need assistance carrying the shell.

If you are carrying the shell with a partner

- one person carries in the bow and the other at the stern
- you lift it together and place it in the water such that the shell is placed on the water level

DOUBLE

Carrying a double is a little bit different than carrying a single. First of all, you can't carry a double by yourself.

LOOK AT THE PICTURE:

- Notice where the rowers are standing
- Notice that the rowers are holding the shell on the dockside
- The boat is resting in the crook of their arm and the other arm is free to be used to assist in rolling the boat into the water

When you are carrying a boat with a partner, always lift together!

CARRYING A SINGLE

CARRYING A SINGLE

CARRYING A DOUBLE

Grip

GRIP REVIEW:

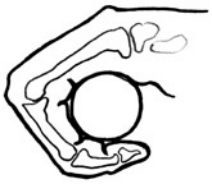
Remember a relaxed grip!
How do I feather my blade without bending or arching my wrists?

For a better idea of the anatomy of the forearm and hand, see the diagrams below.

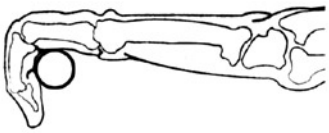
It is important to make sure that the handle of the oar(s) is positioned correctly in your hands.
When the oar is square, the handle should sit in the metacarpals. When you roll the blade onto the feather, the oar handle should move toward the 1st, 2nd and 3rd phalanx. The fingers function as a hook and the thumbs only assist with the feathering action.

ANATOMY OF THE HAND

SQUARED POSITION
The hand looks like this.



FEATHERED POSITION
The hand looks like this.



Technique

TECHNIQUE AND DRILLS

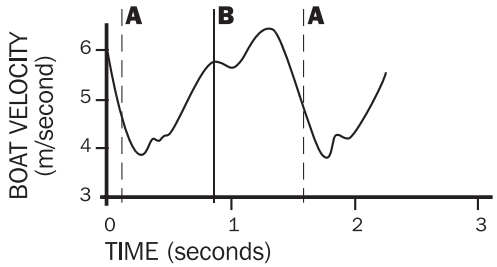
You will remember that in the Journey 1 Participant Handbook, you were provided pictures and some hints about body positions and bladework. In this Journey 2 Handbook, you will find more details and hints on how to refine the movement patterns for a more fluid rowing stroke.

Part of the emphasis in Journey 2 is on drills. Throughout this section, you will be provided with a number of drills that will help you refine your technique.

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

1. Know what you are supposed to focus your attention on.
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.
5. If you don't understand what the purpose of the drill is, ask your instructor.

UNDERSTANDING HOW THE ROWING SHELL MOVES



A=ENTRY POINT
B=RELEASE

In rowing, we talk about negative forces and positives forces as having an impact on how the rowing shell moves through the water. The positive forces help the boat move forward and the negative forces hinder this motion. What you do during the stroke cycle can minimize the negative forces and maximize the positive forces.

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.

Consider the diagram ABOVE. This diagram shows how the boat moves through the stroke cycle. It shows when the boat is moving its fastest and when it is moving its slowest. The goal of the rower is to try to minimize the speed changes in the boat. The rower can influence these changes in the boat velocity throughout the stroke cycle.

Negative and Positive forces have a large effect on how the shell moves through the water.

RELEASE

DRILLS:

"for hands and release... progressions start with touching then 'half of touching' just a circle with the hands, back to touching."

MARNIE MCBEAN

3 TIME OLYMPIC CHAMPION

A. This is the entry position and the hull continues to slow down until the blade is locked in the water and the force of the leg drive begins. Here is what you should concentrate on at this part of the stroke:

1) 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 of the foot stretchers.

B. This is the release position. The boat speed increases during the recovery. Here is what you should concentrate of during this part of the stroke:

1) The oar handle should move continuously with no pauses and no jerking. It should be very smooth.
2) By keeping the movements of the oar handle smooth, there should be no high velocity peaks.

THE RELEASE

AIMS: To maintain the speed of the boat with a quick movement of the arms.
To draw the blade up to allow a clean 'send'.
To extract the blade cleanly and together. This is when the boat is moving its fastest.

1. Assuming that the drive has been properly executed, it will be almost impossible to increase the speed of the boat with the arms, as they cannot match the power generated by the legs and lower back.
2. The smoothness of the rest of the stroke can also be lost if the rower "yanks" the blade through the water. A properly executed finish involved a 'draw and squeeze' rather than a pull or "tug". However, this should not be taken to mean that there should be any lack of effort - the arms still need to produce considerable power, but in a controlled way. The consequence of a lazy finish can be that the effort at the entry and drive is lost and no run is achieved.

CORRECT ACTION AT THE RELEASE

INCORRECT ACTION AT THE FINISH

3. The elbows need to be drawn quickly and smoothly past the body with the effort being concentrated on the outside arm and shoulder. The inside arm should steady the blade and produce power towards the very end of the stroke but will inevitably not exert the same force.
4. Both arms should be used to guide the blade up into the chest at the finish. Without drawing up, the finish cannot be sent as there is no room to tap the blade down and away.

REFINING THE RELEASE ACTION - CLEAN CRISP BLADEWORK

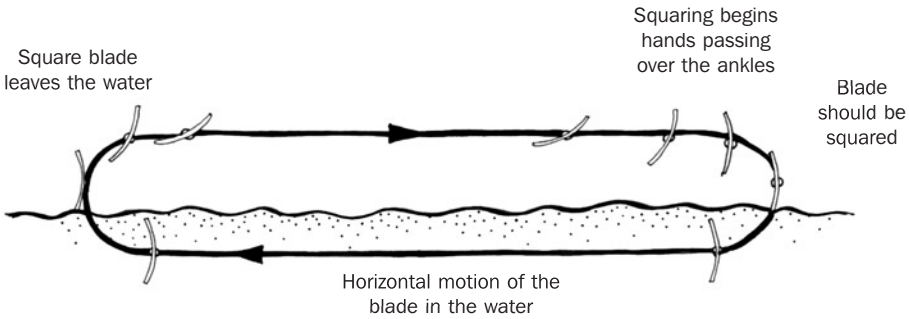
SWEEP

1. As the handle reaches the chest, the outside arm (in sweep) should be used to tap the blade down. The blade must remain square until it is fully extracted from the water only then should the inside arm be used to feather it, using very little wrist action in the feather action.

SCULLING

As the handles reach 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. By using the thumbs and fingers, the handles roll from the metacarpal into the 1st, 2nd and 3rd phalanx.

Here is how the blade should look coming out of the water at the release -



NOTE: the blade is out before feather takes place. The blade is carried one full blade width off of the water

DRILLS:

"Rowing on the square is excellent to clean up the blade work. You can concentrate on the release action and hand levels on the recovery."

TRICIA SMITH

1984 OLYMPIC SILVER MEDALIST

TRAJECTORY OF THE OAR HANDLE

JOURNEY 1
BEGINNER

JOURNEY 2
BETTER

JOURNEY 3
IDEAL
LENGTH OF STROKE

EARLY RECOVERY

DRILLS:

"The pause drill with a break with the hands away and body angle set is good to get the correct movement pattern."

TRICIA SMITH

1984 OLYMPIC SILVER MEDALIST

THE RECOVERY:

AIMS:
To let the boat do the work while you relax and get ready for the next stroke.
To rock the upper body over the hips and onto the toes.

Here is where you can really feel good rhythm!

1. The hands should move away from the body at least as fast as they were drawn into it. This should not be forced but should flow.
2. If the finish has been properly executed, the boat should be running at its maximum speed and the boat should be level - this is the rower's only opportunity to rest. To achieve this, the shoulders and arms should be relaxed - stiff shoulders and locked elbows are to be avoided.
3. Physiologically, the most efficient breathing pattern for the participant is to exhale on the release and then inhale immediately. DON'T FORGET TO BREATHE!
4. Once the hands are "away", the body must be rocked over into the catch position. It is vital that this movement comes from the hips and not just by leaning forward from the shoulders. The whole upper body must be rocked without rounding the back - this cannot be achieved unless the knees are held down until the rock has been completed. Achieving this in unison is the easiest way to create a rhythm in an eight or four.
5. The rock over should also achieve a transfer of the rower's weight from the seat to the footboard. The key to achieving the "push" off the catch is to have the weight on the feet as early as possible in the recovery and then to build that pressure as the rower comes forward on the slide.

REMEMBER: this is where you want to minimize any vertical movements and try to be smooth.

RECOVERY - THE SLIDE

AIMS: To hold the body position achieved in the recovery phase
To build pressure on the toes
To stay relaxed enough to allow the accurate placement of the catch.

1 The body position should remain relaxed and should not alter from that achieved from the rock over.
2. The slide forward should be at an even pace, with no rush to the front stops.
3. The slide should happen under its own momentum as a result of the "hands away" and rock over movements. This should lead to the rower floating up the slide. It should not be necessary to use the ankles or feet to pull the seat up the slide.
4. As the boat moves beneath the rower and the seat moves toward the frontstops, there will be a gradual transfer of the weight of the rower from the seat to the footboard, building pressure on the toes.
5. The rower should use the inside arm to square the blade as it comes over the toes and let the hands gently rise into the catch. In sculling, both hands are involved in the squaring action.

LATER RECOVERY

THE ENTRY

AIMS: To place the blade(s) in the water from the position of maximum length;
To apply the push to the blade immediately
THIS IS WHERE THE BOAT IS MOVING THE SLOWEST

1. At the instant that the frontstops is reached, 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. If this is not achieved instantaneously, one or two things can happen: 1) the leg drive is applied without the blade being locked into the water (therefore all the leg drive is pushing the boat backwards - into the stern): 2) there is a pause at frontstops which causes instability, timing problems and loss of run on the boat.
2. Avoid trying to slam the entry - it wastes energy, causes instability in the boat and leads to the development of a two-stage stroke (entry, followed by finish with nothing in between) rather than a smooth application of force.
3. 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 locked, and the arms straight. Avoid using the shoulders or arms as anything other than a way of connecting your legs to the handle. With the weight on the toes, lock the spoon in the water by pushing down on the heels - this will extend the knees.

THE DRIVE

ENTRY

DRILL:

"My favorite drill was sitting at the catch and just rowing the top 1/4 slide and focusing on putting in the blade first before the wheels start going back. This teaches us to have a quick, light catch."

COLLEEN MILLER
4 TIME WORLD CHAMPION
LWT WOMEN'S 2X
LWT WOMEN'S 4

MID DRIVE

DRILLS:

"fun and play boat skills... stand up in the boat... clap your hands on the recovery...clap you hands on the drive"

MARNIE MCBEAN

3 TIME OLYMPIC CHAMPION

AIMS: · To apply full force of the leg drive smoothly whilst "hanging off" the blade
· To accelerate the boat to its maximum speed
· To coordinate the application of the back, shoulders and arms

1. There should be very little of the rower's weight on the seat during the drive. The knees should come down smoothly, but as quickly as possible. The arms should still be straight with back locked and the rower "hanging off" the handle of the blade.
2. The rower should not have used any force from the shoulders or arms until the legs have been straightened. The back will naturally "open" towards the end of the leg drive.
3 The rower should then initiate the first part of the upper body effort by pushing the shoulders back.

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.
Why do you want to balance the boat?
There are a number of reasons: 1) comfort 2) confidence 3) efficiency 4) technique.

BOAT MANEUVERS

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. The games and drills will help you master the boat maneuvers.
Remember that the wind, currents and water conditions will have an effect on your boat maneuvers.

For Journey 2, 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) turn the boat using backing and touching strokes
4) launch unaided and dock unaided.

RHYTHM & EFFICIENCY

Rowing is a continuous cyclical movement punctuated by intense muscular contractions during the drive and extensive relaxation during the recovery. The ability to contract and relax the muscles at the right time is the basis of good rhythm. Rhythm is the ratio between the time of the drive and that of the recovery. An emphatic rhythm improves performance.
Knowing when to contract muscles is relatively easy for experienced rowers. They know when the drive starts. Knowing when to relax is more difficult for beginners, as they often keep their muscles tight even during the recovery. This results in premature fatigue through excessive tension.
The ability to relax at the right time is perhaps one of the most underestimated skills in rowing.

Here are two approaches to learning about rhythm, efficiency and relaxation:

Ensure your stroke rate and blade pressure are low enough for your skill level. 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 enough so that you (and your crew) can consciously relax the grip, the forearms, the shoulders and even the facial muscles.
Once you feel the effect, you can begin to increase the blade pressure and stroke rate.
You can row in a single and use the approach as described above; you will get immediate feedback from your shell.

A GAUGE OF EFFICIENCY AND RHYTHM

Here are some guidelines to help you gauge whether your rhythm is on the right track. It relates to the puddle clearance of the stroke's puddle in relation to the bow person's puddle before the next stroke.

	INITIALLY	EVENTUALLY
8+	stroke overlapping bow's	bow's puddle at stern post
4-/4+	bow's puddle at stern post	3 - 4 feet past stern post

DRILL:

"I like the eyes-closed-drill. Closed for 10 strokes, open for 10 strokes, closed for 10. Be sure to check your course when your eyes are open."

ALISON KORN

2 TIME WORLD CHAMPION

WOMEN'S PAIR

SAMPLE WORKOUTS:

Category VI
1. 45 minutes c vi steady rowing with drill pyramids
2. 45 minutes Steady state rowing - Boat Maneuvers
3. 60 minutes Steady state rowing - 500 metres entry drills, 500 metres normal rowing, 500 metres recovery drills, 500 metres normal rowing, 500 metres release drills.

Category IV
1. 3 minutes @ 26, 5 minutes @ 18, 3 minutes @ 24, 5 minutes @ 20, 3 minutes @ 26, 5 minutes @ 18
2. 20 strokes @ 26, 20 strokes @ 24, 20 strokes @ 22, 5 strokes @ 28, repeat for 20 minutes.

Remember to warm up for 15 - 20 minutes and cool down for 10 - 15 minutes!

Fitness

ROWING AS AN ENDURANCE SPORT

Whether you are training for a 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.

ROWING CATEGORIES OF INTENSITY

A number of years ago, some of Canada's leading coaches developed a system to categorize and monitor training. 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 to remember is to train at the appropriate intensity. Quite often, people exercise at too high of an intensity and do not get the correct physiological adaptation.

Aerobic endurance for rowing is best trained in Categories V and VI.
In Journey 2, you will row mostly in Category VI. However, there will be opportunities to go at a higher intensity in Category IV. Read the descriptions below to get an idea of how you should feel during your training.

CATEGORY VI

Category VI training is also known as aerobic base training. Category VI is like the foundation that a house is built on. Everything else that you do depends on fitness in Category VI. Category VI helps with recovery and allows you to do more race specific intervals. It is also the intensity where it is best to learn new skills. Category VI workouts should feel quite easy. You are in a Category VI if you can hold a normal conversation without any signs of uncontrolled breathing or hyper ventilation. In other words, you should not hear the other person in the boat with you breathing or gasping. At the end of a Category VI session, you may say to yourself "I really don't feel like I have worked too hard, but the length of the workout made me tired". If this is the case, you are working at the right intensity.

CATEGORY IV

Category IV is a higher intensity training designed to improve race performance. Category IV sessions can be quite tough. They can be done either as intervals, which involve a period of work followed by a period of rest or as a non-stop session. Intervals are usually 5 -10 minutes in duration followed by active rest (rowing lightly). At the end of the work interval, (ie. the last minute) you should just start to feel some discomfort in the legs and arms. If you are feeling discomfort earlier, you are working higher than Category IV. If you are doing a steady state piece (one non stop piece) it should last 20-30 minutes and be quite difficult for the last half of the piece. You should be breathing quite hard and feeling fatigued.

My Rowing Fitness

DATE	TYPE OF WORKOUT	DURATION	HEARTRATE	KM	HOW I FELT

ACKNOWLEDGMENTS

Rowing Canada Aviron has developed the Journey 1, 2, 3 Skills Program to introduce more Canadians to the sport of rowing. In doing so, RCA would like to acknowledge the contributions of many people who have provided ideas, insights, technical feedback and encouragement.

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Much of the material that you will find in the Journey 2 Handbook was developed by Carolyn Trono and Chuck McDiarmid.

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notes...

notes...

ROWING CANADA AVIRON

LEARN TO ROW

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