



Rowing Ireland Get Going Get Rowing Coaching Programme for Community Coaches And TrY Coaches



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Rowing Ireland has developed the Get Going...Get Rowing programme to encourage students to try rowing. The aim of the programme is to bring rowing to schools, teaching participants basic important rowing skills together with a fun and active curriculum. The initiative will be underpinned and reinforced by a series of interactive fun events as agreed in advance and rolled out by the programme manager at the beginning of the year. It is important to maintain the underlined standards as set out in this document.

GET GOING...GET ROWING

(run by Get Rowing staff and community partners)

- ✓ You will be partnering organisations to underpin and reinforce the programme.
- ✓ Priority will be given to schools who would like to work with all PE years and who partake in the TrY rowing, transition year leadership and coaching course.
- ✓ Direct liaison with the Rowing Ireland Development Manager and your designated RI staff member regarding roll out of programme.
- ✓ Rowing Ireland staff will supply schools with an outline and schedule of classes that they will work with over a 4/6-week period.
- ✓ Your Rowing Ireland staff member will organise water sessions and water camps to give the students a complete rowing experience as set out by the Get Rowing programme management objectives.

TrY ROWING (IN ADDITION TO THE ABOVE POINTS).

- ✓ The programme will develop leadership, event management, administration, and life skills among transition year students together with basic rowing technical skills.
- ✓ Further promote Rowing in your school.
- ✓ Enhance the profile of the transition year programme in your school and community.
- ✓ TrY Rowing has been developed by Rowing Ireland and can only be certified by the Get Rowing programme Manager in conjunction with Rowing Ireland Coach Education officer.

PARTNERSHIPS WITH SCHOOLS

- ✓ The schools must be within a 30-minute drive of a Rowing Ireland affiliated Rowing club.
- ✓ Agree to keep the rowing machines in a safe place.
- ✓ Give access to Rowing Ireland staff partners during PE time as agreed with Rowing Ireland staff to facilitate the delivery of the Get Rowing programme by RI qualified instructors.
- ✓ Facilitate in the maintenance and upkeep if necessary of the rowing machines.
- ✓ Attend one or more #Blitzit events and the All Ireland #Blitzit (water & land).
- ✓ Allow for the release of TrY rowing coaches to coach first year pupils as agreed with your Rowing Ireland co-ordinator.

Introduction

How does the programme work?

Students should be given the opportunity to try every sport possible and in the past rowing was not always accessible to all schools. However, with the invention of the rowing machine, indoor access to rowing has become much easier.

Our Get Going ... Get Rowing programme will bring rowing machines into your school and supply fully qualified instructors to facilitate you in running the programme. These Get Going...Get Rowing instructors will come to your PE classes to coach the students as part of your PE programme.

We have formulated a ready-made programme that can be delivered in any part of the country by our trained community coaches or partners. The Get Going...Get Rowing programme not only brings rowing into schools and offers a set programme where ever you are. It also links what you have learnt with a series of Blitz events on and off the water in our Get Going...Get Rowing centres. These events give students the opportunity to compete with their peers across the country.

Dates of these events can also be found on our website www.getgoinggetrowing.com

- November 10, 2017 – Indoor Rowing Blitz in Trinity
- November 24, 2017, Indoor Rowing Blitz Neptune Arena Cork
- December 2017 - Indoor Rowing Blitz in Carlow
- February 2018 - Indoor Rowing Blitz in Galway
- March 3, 2018 - Indoor Rowing Blitz in Limerick
- April 20, 2018 – On-the-Way Blitz, Grand Canal Dock

In addition, we are delighted to be the first programme to partner World Rowing and the International Olympic Committee in delivering the Olympic Values Education programme. This programme has been developed specifically to roll out the Olympic values through rowing and is the first of its kind in the World. Not only will your students learn to row technically and be part of our series of events, they will also learn the Olympic Values through rowing games and technical challenges.

Objectives

The aim of the Get Going Get Rowing Programme is to deliver quality coaching in addition to tutoring the Olympic Values Education programme through Rowing.

At the end of the 6-week programme students will have a good knowledge of the rowing stroke and get the opportunity to translate that knowledge to an on-the-water session. In addition, to having a great understanding and knowledge of the Olympic values of friendship, respect, and excellence.

Outline of the Programme

Week One – Respect

Week 1	Respecting and valuing each other.
Objective	Respecting and valuing each other.
Guidance	<p>PART ONE RowSkills challenge Introduce the sport of Rowing. We are going to get you to use a rowing machine Question: Has anyone used a rowing machine before? Pointers: Ask if there is anyone who has rowed before? Explain: The importance of rowing and how all the muscles in the body are used Break down the rowing stroke making sure that technique is key</p> <p>Tip: Break down your movement</p> <ol style="list-style-type: none"> 1. Arms only – Hands past the knees 2. Body over (body swing) 3. Slide forward 4. Push back with the legs. <p>Finish the class with a relay. Select teams based on the number of rowing machines available. Set the clock for a fixed time (eg 4 or 5 minutes) and explain to the students that they will be completing a relay and that they need to swap over at even intervals. Encourage teamwork between the relay team members. The winners are the team who have rowed the greatest distance. If you have time to repeat the relay, do so and ask the students if they improved their performance and how they did this.</p> <p>PART TWO Olympic Values Challenge Introduce the OVEP values and discuss how we can respect one another and others.</p> <p>The first challenge of respect is to set down the rules at the start of the class. These rules are applicable throughout the 6-week programme. Get the students to suggest some rules that everyone can follow in order to demonstrate respect. Write them down on large sheet of paper to be pinned to the wall. Prompt the students by asking them how do they want to be treated by you and their class mates while participating.</p>
Outcome	<p>Rowskills Outcome: Understand basic rowing Hands/body/slide</p> <p>Lifeskills Outcome We should respect ourselves and those around us.</p>
Notes	<p>EQUIPMENT Rowing machines</p> <p>Don't forget high quality delivery - SMILES 😊 (Safe, maximum participation, involvement, learning, enjoyment and success)</p> <p>OVEP REFLECTION What does respect mean in sport? How do athletes who are poor losers act after they are defeated in a competition? Why do they act like this? If you lose a race, how would you show that you are a good loser? What does this look like in life? Think how people that are different are treated by society? People with disabilities?</p> <p>ROWING STORY At the Youth Olympic games there are no medals in the mixed relay. Instead the teams make a huge arch of the oars for the winning team to walk under as a show of their respect.</p>

Week Two – The Joy of Effort

<p>Week 2 Objective</p>	<p><i>Introduction: The Joy of Effort. Practice makes perfect</i></p> 
<p>Guidance</p>	<p>PART ONE RowSkills challenge</p> <p>Start your class once again focusing on technique Recap on what you did well last week and what was learnt Check-in to make sure there was an understanding. Think of learning principles. If you do it you will remember. Do a demo with the students making sure technical points are considered</p> <p>The focus for this class is on the medal challenge. Explain what is required of the students and that they should take note of their result today because the challenge will be repeated in Week 6 so that they can see how they have improved.</p> <p>PART TWO Olympic Values Challenge <i>Practice makes perfect and the Joy of Effort</i> Introduce the OVEP programme and the objective for the Course Before: Share something hard that you have done this week and that made you feel happy because you achieved it. If you feel a sense of accomplishment, explain why? After: When you got better, how did it make you feel? Does everyone have the same feeling or do they feel different things? Explore these differences.</p> <p>Review: How did that go? Positives first, even better 'if's' for next week.</p> <p>Take a medal challenge poster and give it to your school. Encourage them to improve during the next six weeks</p>
<p>Outcome</p>	<p>RowingSkills outcome Improvement in technique and more confident on rowing machines.</p> <p>LifeSkills Outcome: If you have to work for something you will value it more If I work hard I will be successful By practicing and challenging ourselves today</p>
<p>Notes</p>	<p>Don't forget high quality delivery - SMILES 😊 (Safe, maximum participation, involvement, learning, enjoyment and success) Remember basics are important: (1) Hands; (2) Body; (3) Slide. Hands past knees; Pushing with legs; Straight arms at the catch <i>OVEP Reflection</i> Have I worked for something and has so been worth it? Maybe in another sport</p>

Week Three – Living by the rules of fair play

Week 3	
Objective	<i>Living by the rules of fair play</i>
Guidance	<p>PART ONE RowSkills challenge</p> <ul style="list-style-type: none"> • Start your class once again focusing on technique • Recap on what you did well last week and what was learnt • Check-in to make sure there was an understanding. <p>Tip: Break down your movement</p> <ol style="list-style-type: none"> 1. Arms only 2. Body over (body swing) 3. ½ Slide etc <p>Work on smooth catches and balance</p> <p>PART TWO Olympic Values Challenge</p> <p>Game for: Fair play – living by the rules of fair play - Ball Challenge</p> <ol style="list-style-type: none"> 1. Set up 2 ergometers with fans overlapping for each team. Place one empty bucket at the end of one rowing machine and a bucket full of balls at the end of the other machine. 2. The objective is to transfer the balls from the full bucket to the empty bucket. 3. Select 2 teams – Team A and Team B. Explain the objective and rules in detail to Team A. Explain the objective of the game to Team B but not the rules. Ensure neither team is aware that they have been given different instructions. 4. Identify an observer in each team to observe the actions of the other team. 5. Set the time for 4 minutes and encourage the teams to swap rowers at equal intervals. 6. As soon as the observer notices Team B ‘cheating’ (or within a minute of the game starting), halt the game. 7. Explain to both teams what has just occurred and emphasise the importance of fair play. 8. Replay the game having explained the rules to both teams. Winner is the team who has covered the most distance. <p>Rules:</p> <ul style="list-style-type: none"> • Always two hands on the machine when you have no balls in your hand • Only pick up one ball at a time • If you are not on the machine you cannot pick up balls • If a ball drops it must go back into the ball bucket <p>Discuss the outcome afterwards and the principals of fair play</p>
Outcome	<p>Rowskills Outcome: Improvement in technique and more confident on rowing machines.</p> <p>Lifeskills Outcome Understanding that the skills I learn through sport can help me be the best I can in life</p>
Notes	<p>Don't forget to make your challenges according to SMILES 😊 (Safe, maximum participation, involvement, learning, enjoyment and success)</p> <p>OVEP REFLECTION</p> <p>Before: Do the row task first before you discuss fair play</p> <p>After: In sport do we need rules to play fair? What does ‘winning at all costs’ mean. Does it mean cheating? How about athletes who take drugs? How can fair play extend beyond sport and the rules of sport? What does fair play look like in life? Do you think Human Rights or gender equality are about fair play? What would you feel like if someone stole from you?</p> <p>Action: What will you do differently after today?</p>

Week Four – Pursuit of Excellence

Week 4	
Objective	<i>Pursuit of excellence – Striving to be the best you can be</i>
Guidance	<p>PART ONE RowSkills challenge</p> <p>Start your class once again focusing on technique Recap on what you did well last week, what we like and what we need to focus on.</p> <p>Start off with rowing all together breaking the stroke down. Start off from the catch (fan) or "front Stops"</p> <ol style="list-style-type: none"> 1. Make sure your arms are straight at the catch 2. Go back down to half slide and keep the hands over the knees and the rock from the hips 3. Then no legs (just the body rock) Focus on the importance of getting those hand over the knee's 4. Finally finish off your warm up arms only <p>PART TWO Olympic Values Challenge</p> <p>Remind the group of some heroes in rowing, e.g. our own Irish examples Sinead Jennings mother of three, GP, or Claire Lambe rowed through all her studies and qualified for Rio to then go to Cambridge and win the boat race.</p> <p>GAME: Coloured balls challenge</p> <ol style="list-style-type: none"> 1. Separate the balls into 3 colours (Red, Blue, Green) and place in a bucket. 2. The changeover is based on the number of strokes taken, which is based on the colour of the ball selected: Red – 10 firm; Blue – 15 Firm; Green – 20 firm. 3. Select teams based on the number of rowing machines available and set a time of 4 minutes to complete the game. 4. A team member will pick a ball randomly and unseen (place the bucket high enough to hide the colour but low enough to reach) and the rower must row the number of strokes dictated by the colour. 5. Once the specified number of strokes are completed, the rowers swop over and repeat the process of selecting a colour and rowing the dictated distance (the ball can be picked just before the rower is finished their leg) until the time is completed. 6. Ask the team what changes they would make to improve their performance. They will need to evaluate each other and think of how to improve. 7. Repeat the task and record the distance (which should have improved). Ask them to explore the skills they used in the discussion and the repeated attempt. <p>Discuss: Ask the team to agree what changes they will make to improve their time (e.g. holding feet in place, quicker changeover, etc). Repeat the task and record the distance. Then ask them to review their progress. Ask them to explore what skills they used in the discussion and the repeated attempt.</p>
Outcome	<p>Rowskills Outcome: Improvement in technique and more confidence on rowing machines</p> <p>Lifeskills Outcome If I make choices in life, I can be the best that I can be</p>
Notes	<p>Get one of your rowers to demonstrate the technique. Remember the importance of doing the action yourself</p> <p>OVEP REFLECTION</p> <p>What are you going to differently after today? What skills or behaviours do you need to be successful at rowing? Do any of these help you be successful in life? What are some of the reasons why people stop doing things they want to do when there are difficulties or obstacles in their way? How can you overcome them?</p>

Week Five – Importance of Life Balance

Week 5	
Objective	<i>The Importance of Life Balance</i>
Guidance	<p>PART ONE RowSkills challenge Begin with focus on the technical aspects of technique, especially the need to control the slide forward. Have the rowers warm up and then do some pause drills – eg pausing the stroke at hands away, body over and at the catch (just before the leg drive).</p> <p>PART TWO Olympic Values Challenge - <i>The Importance of Life Balance</i> Ask the rowers to share the most important three things in their lives - now and in the future eg, money, studies, good job, friends, family and rowing</p> <p>GAME - Balancing ball challenge</p> <ol style="list-style-type: none"> Select teams based on the number of ergs (rowing machines) available. Set the time for 4 minutes and encourage change over at equal intervals. The objective of the game is to encourage the students to be mindful of Life Balance so they must balance a plastic cup containing between 1 and 3 balls (see below) on the slide rail. Each ball represents 10m in extra distance. The rower can decide how many balls to include in the plastic cup. <ul style="list-style-type: none"> 1 ball in the cup – placed a full slide 2 balls in the cup – placed at $\frac{3}{4}$ slide 3 balls in the cup – placed at $\frac{1}{2}$ slide They must row for their allotted interval without knocking over the cup containing the balls. If they knock over the cup, they must finish out their interval but they get no extra distance. If they manage to maintain the balance of the cup, at the end of their interval they put their balls into a bucket to be counted up at the end. Repeat for each rower until the game is complete. Once the game is completed, all the balls in the bucket must be counted up for each team and the distance added to the finishing distance for the game. The team who have rowed the most of the combined distances wins.
Outcome	<p>Rowskills Outcome: Have I achieved? Rowers should be getting more proficient with technique.</p> <p>Lifeskills Outcome Life requires us to juggle lots of different things at once. How good are you at juggling lots of things?</p>
Notes	<p>OVEP REFLECTION Life requires us to juggle lots of different things at once School, sports, friends and family. How good are you at juggling lots of things?</p> <p>FACT Rowers are some of the most educated athletes at the Olympic Games. Some coaches put this down to rowers having very good time management skills so they can plan their training and study time. In a recent Masters of Education study, rowers performed markedly better in their leaving certificate results than other sports and dramatically better than those who gave up sport (UCC).</p>

Week Six - The Environment

Week 6	
Objective	<i>Protecting the marine environment.</i>
Guidance	<p>PART ONE RowSkills challenge</p> <p>Begin with focus on the technical aspects of technique, especially the need to control the slide forward. Have the rowers warm up and then do some pause drills – eg pausing the stroke at hands away, body over and at the catch (just before the leg drive).</p> <p>PART TWO Olympic Values Challenge</p> <p>Talk about the importance of clean water explain the effect of rubbish and how it can pollute water.</p> <p>GAME – Water challenge</p> <ol style="list-style-type: none"> 1. This is a challenge and intervals should be equally shared. Select teams based on the number of machines available. 2. The objective of this game is to promote the concept of conserving water. We do this by using a water bottle which is placed on the slide and the aim is to avoid knocking it off when the rower slides forward (this encourages controlling the slide) 3. Use a plastic water bottle filled with a little water to weigh it down slightly but do not fill it to the top. 4. Place the water bottle on the slide at the full slide position. Each rower must row and avoid knocking the bottle off. Select an observer in each team to count the number of times the bottle falls off the machine. 5. The winner of this is the team who completes the challenge and ‘conserved’ the most water i.e. knocked the bottle of the slide the least. <p><i>” In Developing countries 70% of Industrial waste is dumped into clean water”</i></p>
Outcome	<p>Rowskills Outcome: Improvement in technique and more confident on rowing machines.</p> <p>Lifeskills Outcome We should respect our environment and those around us. Did this help us learn the importance of working and respecting each other to protect the environment?</p>
Notes	<p>EQUIPMENT Partially filled water bottle – one for each machine.</p> <p>OVER REFLECTION Do we see how easy it is to waste water? What are the biggest threats to your local waterways? What changes have happened in your parents’ lifetime. Look at the WWF poster (in the appendix) and discuss how important oceans or lakes might be to your community.</p> <p>ROWING STORY Reflect on the amount of discarded water bottles that are left around after rowing and general sporting events.</p>

Week Seven – Technical Challenge

Week 7	
Objective	<i>Through Determination our journey has been better</i>
Guidance	<p>PART ONE RowSkills challenge Show your coach what you have learnt over the last few weeks – use the technical challenge check list</p> <p>PART TWO Olympic Values Challenge – Technical Challenge</p> <p>Complete the 6 week programme with a Medal Challenge and ask the students to compare their results today with their results from the last effort.</p> <p>Revisit the Medal Challenge and relay in preparation for the Blitz</p> <p>Talk about what you have achieved over the last six weeks of the programme:</p> <ol style="list-style-type: none"> 1. Respect – Respecting and valuing one another and others. 2. Practice makes perfect “Experience the joy of sport through physical activity” – medal challenge 3. Fair Play – Ball Challenge 4. Striving to be the best you can “Doing your best by pursuing excellence” – Coloured Ball Challenge 5. Life Balance “Living a harmonious and balanced life – body, will and mind” – Balancing Ball Challenge 6. The environment –Protecting the marine environment. Water challenge 7. The Technical Challenge and repeat of medal challenge - review of practice makes perfect and striving to be the best you can. <p>If you have time, finish off on a relay challenge</p>
Outcome	<p>Rowskills Outcome: Some technical pointers of rowing</p> <p>Lifeskills Outcome Discuss the change in the medal challenge after six weeks rowing – was it worth putting the work in?</p>
Notes	<p>What can we do to prepare for the Blitz</p> <p>OVEP REFLECTION Reflect over all the values that been discussed over the past number of weeks and ask the students to try to apply to all areas of their life.</p>

Technical Challenge Checklist

Use this check list as your technical challenge check list. Check to see if the student is able to achieve each of these 5 challenges.

1. Positions

- a. Hands Away
- b. Body Over
- c. Pushing Legs

2. Show stroke rate

3. Straight arms at catch

4. Stand up on machine

5. Elbows in at the side (no chicken wings)

Indoor Rowing Certificate – Medal Challenge

Once completed ask your coach/Manager for medal certs for your group

Indoor Rowing Certificate

Go for Gold

Year	Time/Distance	100% Gold		90% Silver		75% Bronze	
		Boys	Girls	Boys	Girls	Boys	Girls
First	2 min	510m	490m	459m	392m	382m	368m
Second	3	810m	750m	729m	675m	607m	562m
Third	4	1123m	1020m	1012m	918m	844m	765m
TY	5	1430m	1275m	1287m	1287m	1073m	1072m
Fifth	6	1720m	1540m	1548m	1386m	1290m	1155m
Sixth	2000m	7min	7:45	7:42	8:31	8:45	10:56

TrY Rowing Course Programme and relevant details

You have completed the TrY rowing course and you have worked hard all day. You are well prepared and eager to get out and coach some of your peers. Use the information in this pack to help familiarise yourself with the rowing machine, correct rowing technique and ideas to develop lesson plans to coach your peers.

Coaching tips

Here are some helpful tips when thinking about your first coaching session:

1. Think of a coach or teacher you admire; be confident, stand tall and emulate what they may have taught you.
2. You are in charge of this group- your task is to teach them how to row, to have fun, compete and most importantly of all to enjoy themselves.
3. Remind yourself of the IDEA principle:

I **Introduce:** yourself, make them at ease and tell them a little bit about yourself.

D **Demonstrate:** get on the machine and do the movement yourself/or show one of the concept II video's on www.getgoinggetrowing.com

E **Explain:** Remember the important tasks that we completed in the course and are outlined in the previous sections – The rowing stroke and Most common faults.

A **Attend:** Once you are happy that everyone got the opportunity to row make it fun - split the group into three/four teams and organise a relay (keep an eye on class time)

Key points to remember:

- Your teacher and/or facilitator will be on hand to assist you at all times so if you are unsure, just ask.
- Keep an eye on the time; your teacher will have allotted a fixed time for you.
- Remember the importance of planning your class and being communicative and confident.

Other interesting games and challenges

All of the information you need to coach indoor rowing is included in this manual. There are detailed outlines of the correct technique and the most common faults associated with learning to row. There are also detailed lesson plans at the end of this manual and you can cherry pick the lessons that you would like to use to involve the students and help them learn to indoor row in a fun environment.

These are some examples of the types of exercises you could use to coach:

Pause Drills: It is helpful to do pause drills on the ergometer. Not only does this emphasize the importance of timing and rowing all together but it can be a good way to show the different parts of the stroke. These are particularly useful exercises when you are trying to solidify the technique. You could begin with pausing at the finish, then hands away, then body over and then possibly at the catch, just like in the boat

Tandem Rowing: In a boat, rowing in sync and as one (as a team) is essential. Starting at either back stops or front stops start the student rowing together and work with them to keep the rhythm and pace in line with the rower on the middle ergometer. Another way to teach this is to get the group to hold a sweeping brush handle as opposed to the ergometer handle and try and row together using that to keep the timing and the flow.

Relays (Everyone's Favourite): Everyone in the schools love doing relays. Here are some examples of relay fun. **NB** Remember when doing a relay, team work is very important e.g. a person for feet, a person for the handle and a cox for motivation and changeover - See an example of our schools team compete in an interprovincial relay at the Irish indoor championships
<https://m.youtube.com/watch?v=8DoNyFtqgI4>.
 If you have time to spare at the end of your coaching session, you could split the class into even groups and do **Lightening Relays** with the students eg Switching every 100m or switching every 10 strokes (power ten strokes) or switching every 500m or switching every 30secs

Simon Says: This is a good drill for a big group [Split your class into even groups e.g. If you have 24 students and six ergometers, split the groups into groups of four].

Starting at front stops (attention go – as in a boat race) Command, for instance “pause at the finish” and then the person that is most off in their timing or that breaks the pause has to hop off the erg and switch with someone in their group and then it continues like that.

Travel the length of a local river: Using your class whiteboard, have each student mark down the number of kilometres they do in a week. See how long it takes you, as a class to row the distance of the local river. Print out a map to make it more realistic for the students and highlight the amount you've done together, in total, each week.

Relay with a difference: Split into 2 teams with at least three machines per team. Set the each of the machines to 100m, 200m and 300m respectively. Start the relay on the machine set up for 100m, once the first rower is finished they then move on to the next machine set up for 200m, and then the machine for 300m. Continue this for each team member. The winning team will be finished first.

On-land games to play

Some days the class are just tired and are not up to doing rowing on the machine all the time. The following are some rowing and team building games that you can play.

Man Overboard: A variation of Man the Fort. Equal teams of six to eight students are formed. The students stand in lines behind a leader with a fair space (three or four feet) between each. The game leader then calls out a series of about six orders, which mean that certain actions have to be performed, with the last person to carry out the order, or anyone doing the wrong thing, considered to have capsized their boat. Anyone who suffers this fate drops out of the team and sits down away from the game.

Example of orders:

- Boat on the slip - Everyone runs on the spot
- Sitting on your slide - All sit on the floor with legs straight out in front of them
- Lock your gate - Lean out and imagine tying your gate
- Turn the Cox - All spin round on the spot
- Bow side - Everyone to the left
- Stroke side - Everyone to the right

Boat Race: At least two groups of six to eight are needed. A 'boat' is made by five to seven players in knees-full-bend position behind each other, each with his hands on the person in front. The remaining player is the 'Cox' and stands facing the 'boat' holding the hands of the first player. The 'boat' moves forward by all the players hopping together off boat feet, the 'Cox' helping by calling out the rhythm so that they all move in unison. Boats race each other over short distances. During the race any boat which breaks (loses grip on the shoulders of each other) is considered to have been sunk and is disqualified.

The Bridge: Divide the group into two equal teams. Arrange the chairs in two lines facing each other, one or two meters apart. Each line must have the number of chairs equal to the number on the team plus one extra. Fix a point in the room where the finish line is. Ask each group to choose one line and they must stand on the chairs. The idea of the game is that when it starts they must pass the last chair from the back up to the front place it on the ground and then move up one chair each. This is then repeated until one team crosses the finish line. If someone falls off then they are out of the game and their team must pass two empty chairs.

River and Road: All the students stand in a line (put a piece of string along the ground in front of them). When the leader says 'In the River' or just 'River' they jump forward over the string. When s/he says 'On the Road' or 'Road', they step back over the string. If s/he says 'In the River' when anyone is actually in the river and anyone moves, they are eliminated. Similarly if 'On the Road' is called and they are already on the road and they move, they are eliminated.

Appendices

Appendix 1: The Benefits of Indoor Rowing

Background to the rowing machine

The Concept 2 Indoor Rower was first developed in 1981 by a group of rowers in the US to continue training through the winter when the water was frozen. Since then the Indoor Rower has evolved to become one of the most widely used pieces of gym equipment. The secrets of its success are its simple design and its wide appeal to all kinds of user—whether occasional home exerciser or keen racer, old or young.

Its Performance Monitors come as standard on all models, and they make all the difference. Users can customise workouts, record and download training data and race against each other. By far the most important feature of the Concept 2 Performance Monitor is that the times and distances are directly comparable between all machines. This is unique to the Concept 2 Indoor Rower and is why it has been able to give rise to a new sport with its own National, European and World Championships.

The benefits of indoor rowing

Indoor Rowing is regarded by many as the complete exercise and allows everybody to enjoy the sport. The Concept2 Indoor Rower offers many benefits:

- It provides a superb aerobic work-out.
- It exercises every major muscle group.
- It is a time-efficient form of exercise and an excellent stress-reliever.
- It is weight-supporting and non-jarring and ideal for rehabilitation exercise.
- It can be a very effective weight management exercise.
- It is air resistant and therefore suitable for anybody of any age.
- It provides a smooth, rhythmic movement which is both safe and enjoyable.
- The performance monitor provides immediate feedback.
- It has developed into a sport in its own right.

Research directed by Dr Fritz Hagerman, Chairman of the International Federation of Rowing Associations (FISA) Sports Medicine Commission, shows that exercise, even begun late in life, can improve both physical and mental health, and can also delay ageing. There is considerable further evidence that regular exercise can lower blood pressure and diminish the risk of a range of ailments, from heart attacks to strokes, obesity, diabetes, and indeed some forms of cancer. Research from Finland indicates that engaging in endurance activities can increase longevity by six years over the couch potato. In endurance sports, the primary emphasis is on cardio-respiratory fitness – the conditioning of the heart, blood vessels and lungs. The rowing machine, often wrongly used solely as a ‘warm up’ machine, is perfect for developing endurance and provides an excellent balance of fitness benefits.

Gateway Activity

The Concept 2 Indoor Rower is a fantastic gateway activity for schools. It promotes health and wellbeing, helps tackle obesity and introduces children of all abilities and persuasions, to an enjoyable and rewarding physical activity. Beyond on-water rowing, rowing machines are used by a wide range of sports, from Sailing and Triathlon to Rugby and Football, as an activity that allows accurate testing of fitness and power development as well as a safe and time-efficient means of developing aerobic endurance. In addition to sports, many of the armed and uniformed services use the Concept2 within their fitness testing programmes.

Indoor rowing is suitable for almost all children. The design of the machine and the safe, weight-bearing and air resistant nature of the exercise makes it especially beneficial to those with special needs. Adaptations can be made to the rower to accommodate quite severe physical disabilities and the fact that it is a closed activity appeals to those with learning disabilities.

Indoor rowing benefits for schools and pupils

Schools sport should promote a powerful, positive image and is an essential part of any successful school. Indoor rowing can raise the profile of a school and offers considerable benefits, including:

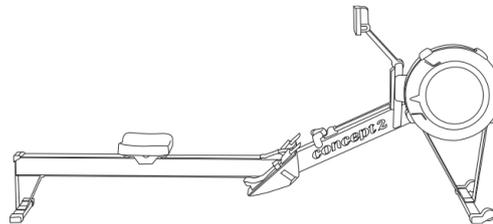
- All schools compete on an equal footing.
- It is an all-weather activity.
- It appeals to both boys and girls equally.
- It has appeal to over-weight, disaffected and hard-to-reach pupils.
- It works well in a variety of Special Needs situations for both learning and physically disabled pupils.
- It is a safe activity.

Indoor Rowing adds to the variety of sports on offer in a school and is especially suited to pupils who find traditional PE unappealing.

The indoor rower or the ergometer provides an excellent and thorough workout for almost every major muscle group in the body as well as working the heart, lungs, and circulatory system in a complete range of intensities. The weight-bearing nature of Indoor Rowing means it can be used to introduce physical activity to those who have previously taken little or no exercise. It is perfectly suited for general fitness work and works well as part of a weight management programme. Being so versatile, and such an excellent means of improving both aerobic and anaerobic fitness, the rowing machine is great for cross training and complements many sporting activities. And, of course, the performance monitor is central to all these possibilities, feeding back information on progress, storing data for later use and motivating users while on the machine.

Appendix 2: When You Begin

Setting up the machine



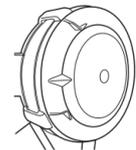
The Seat The first stage of setting up the rowing machine for an exercise session is to get into the correct position on the seat. Notice the ergonomic shape of the seat. It is designed to provide maximum comfort when sitting towards its rear. Always make sure that any clothing is tucked in away from the seat rollers. Once seated correctly come forward on the seat, bringing it to the front of the slide so that the rest of the machine can be setup correctly from a comfortable position.



The Performance Monitor (PM) The Performance Monitor should be raised to an upright position before every exercise session. This will help the user to maintain good posture, sitting in an upright position when looking at the PM. It will also prevent the PM from being damaged if at any point the Handle slips out of the user's hands. Switch the PM on by pressing the Menu Back Button and check that the batteries are working. The functions on the PM can be used to set up a wide variety of exercise sessions



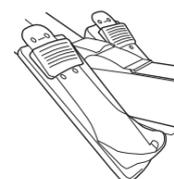
Damper Lever and Damper Setting Now the resistance can be set by adjusting the position of the Damper Lever. The Damper Setting can be varied from the lowest setting of 1 with the lever at the bottom to the highest setting of 10 with the lever at the top. For most normal rowing workouts, a setting of 3 or 4 will be o.k. Note that the intensity of a rowing workout is determined by how hard the user rows and not by the Damper Setting. The resistance can also be precisely set by adjusting the damper setting according to the Drag Factor which is displayed via one of the functions on the Performance Monitor.



The Handle The correct position to leave the Handle is left resting against the Fan Cage when the rowing machine is not in use. This will minimise wear on the elastic chord which brings the Handle back towards the Fan during the rowing stroke. Before the user's feet are placed in the Foot Rests the Handle should be placed in the Handle Hook so that it can be picked up easily when the user is ready to row.



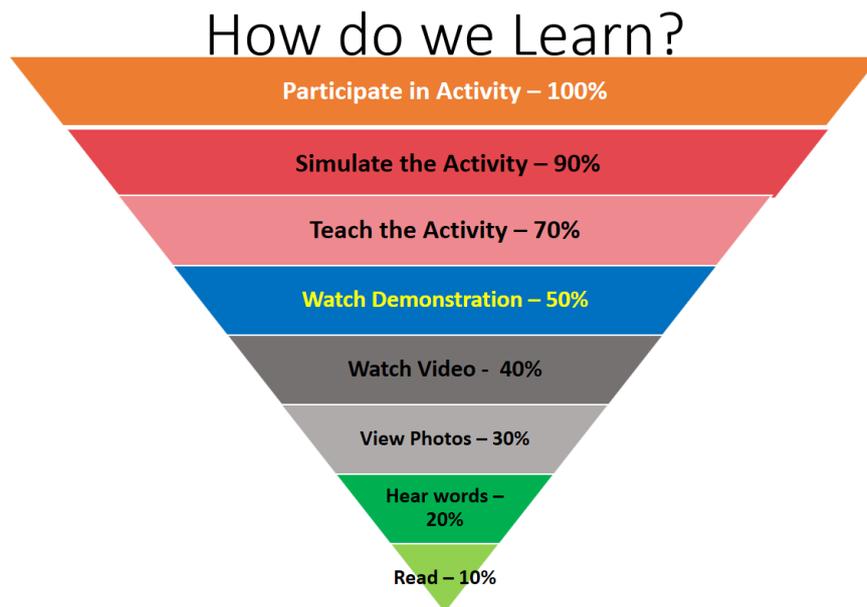
Foot Rests Once seated correctly and the Damper Setting, Performance Monitor and Handle have all been set up for rowing the user's feet can be positioned in the Foot Rests. Notice that the height of the Foot Rests can be adjusted by changing the hole position that they are secured in. The foot straps should be loosened off before the user's feet are placed in the Foot Rests to make sure they can easily slip under them. The Foot Rests should be adjusted so that when the foot straps are tightened over the feet they rest over the crease in the trainers when the foot bends. This position will help the user to row comfortably while maintaining the correct posture.



Using the Machine Safely

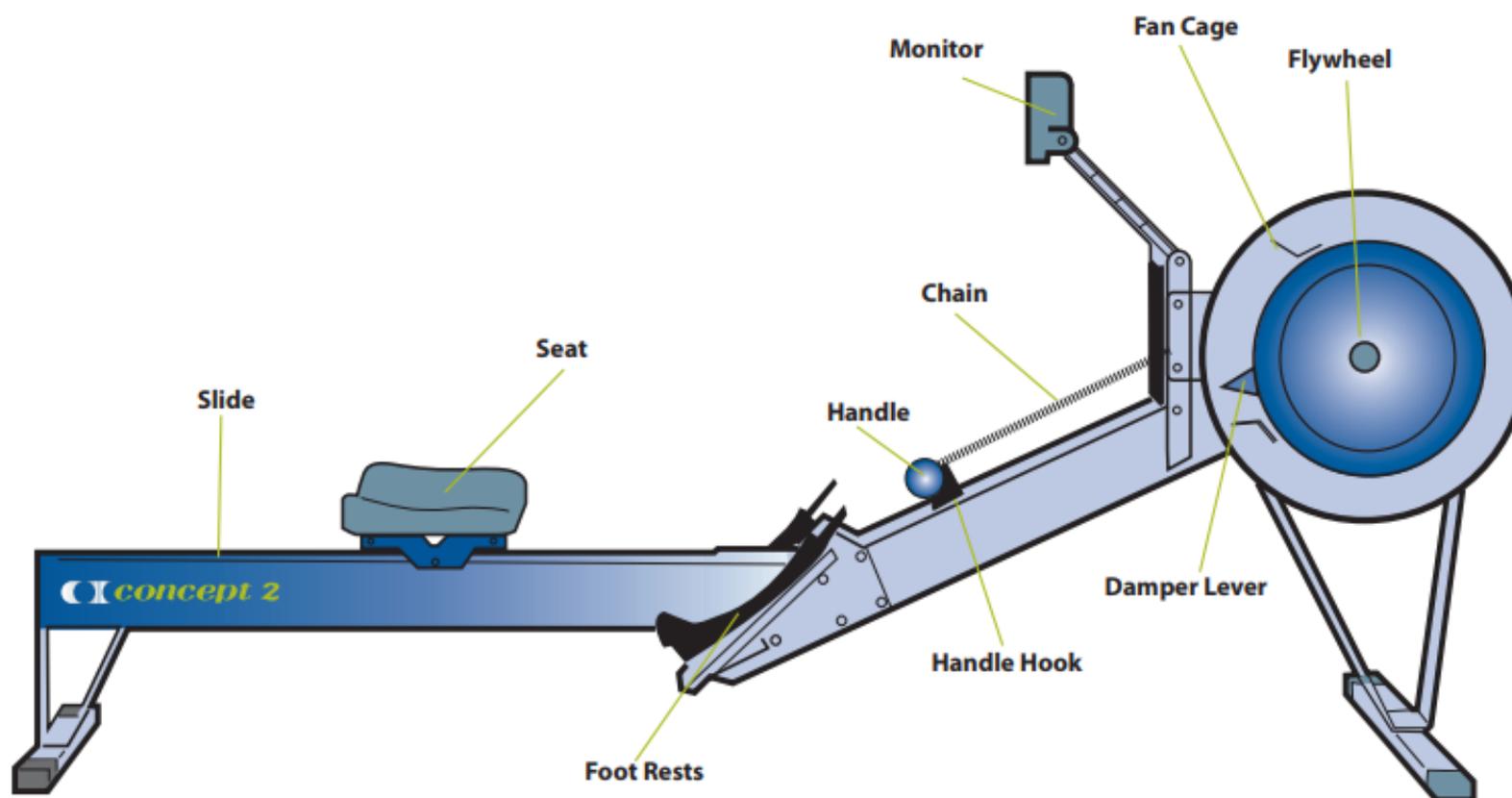
These are some routine precautions for the safety and comfort of the user:

- Check the handle, seat and monorail are clean - no dust or sweat.
- Adjust the damper setting and place the handle in the handle hook before securing your feet.
- Adjust the footrests and fasten the straps securely.
- Sit slightly towards the back of the seat.
- Pull straight back with both hands. Do not row with one hand.
- Do not twist the chain or pull from side to side.
- Do not let go of the handle whilst rowing.
- Keep clothing, fingers, and children away from seat rollers.
- When you finish your exercise place the handle in the handle hook.
- After you have released your feet place the handle against the fan cage.
- Ensure the machine is properly and routinely maintained.
- T-shirts should be tucked in, shorts tied up and the ties tucked in and shoes should be tied correctly.
- Long hair should be tied back

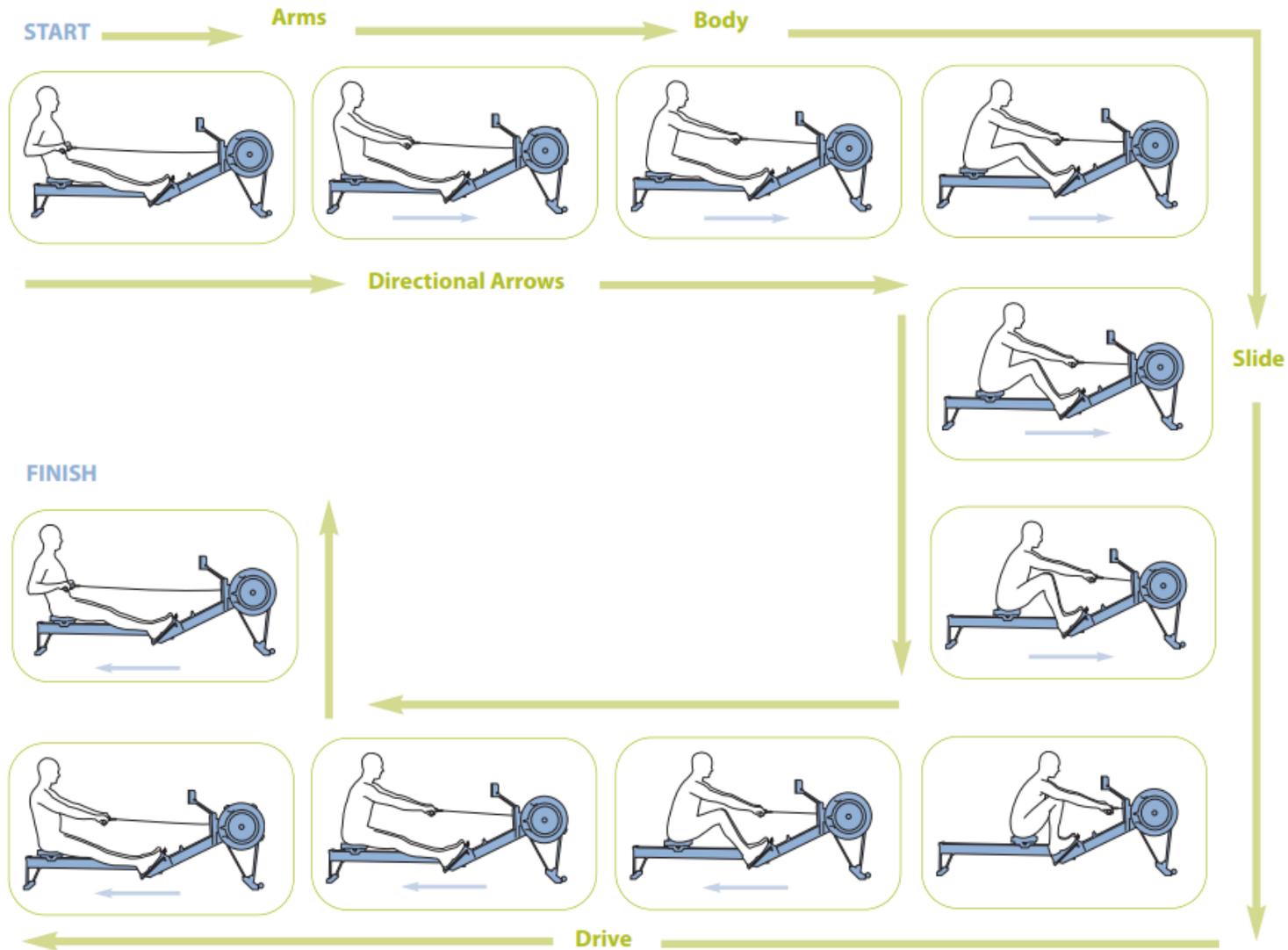


Remember: Students learn more from watching and doing

Parts of the Indoor Rower



The Rowing Stroke



Traffic Light System

Red Light - Before you get on the machine

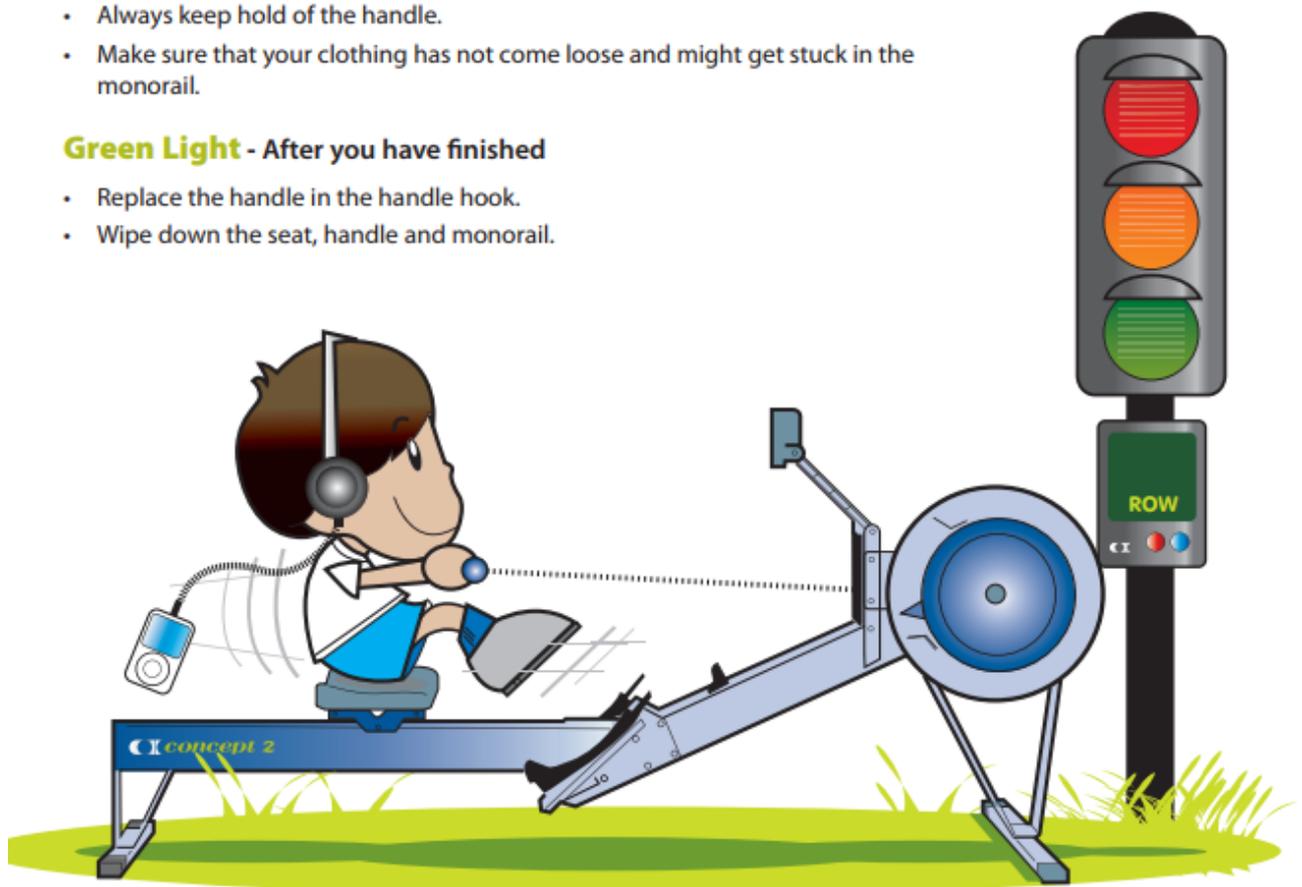
- Check that the handle, seat and monorail are clean and free from dirt, sweat and dust.
- Adjust the damper setting.
- Make sure that the foot strap goes over the crease in you shoes.
- If you have long hair make sure that it is tied back away from your face.
- Make sure that your t-shirt is tucked in.
- Make sure that the monitor is at eye height so that you can see it easily.
- If you are not sure about technique ask your teacher first.

Amber Light - While you are rowing

- Sit slightly towards the back of the seat.
- Hold the handle with both hands.
- Do not twist the chain.
- Always keep hold of the handle.
- Make sure that your clothing has not come loose and might get stuck in the monorail.

Green Light - After you have finished

- Replace the handle in the handle hook.
- Wipe down the seat, handle and monorail.



Detailed Overview The rowing stroke can be divided into two phases, the Drive, and the Recovery.

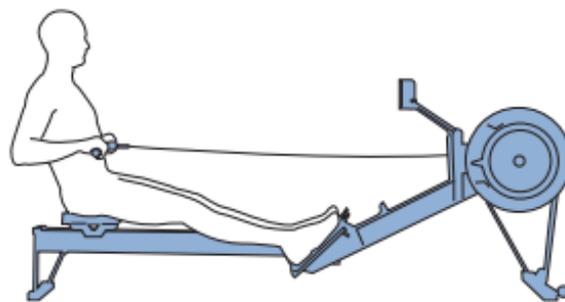
The Drive is the power phase of the stroke where the Handle is drawn away from the Fan. It commences at The Catch where the handle picks up the load from the Flywheel at the front of the stroke and ends at The Finish position with the Handle drawn right back towards the body at the end of the stroke.

During the **Recovery**, the Handle is allowed to come back towards the Fan while the user gets in position ready for the next stroke. The Recovery begins at The Finish position and ends at The Catch ready for the next Drive phase to begin.

The Drive should be strong and vigorous and the Recovery should be steady and relaxed. Rhythm is the time relationship between the Drive phase and the Recovery phase. The ratio should be about 2:1 with the Recovery taking about twice as long as the Drive.

Ironically, the best place to start is the finish.

Start Position (The Finish) Before starting to row the user should get into The Finish position (see Figure 1). To do this, extend the legs to a flat position and rock the body back slightly to about 11 o'clock on a clock face. Try to keep the back straight in a strong position. The Handle should be drawn to the body and held lightly in both hands. The hands should be positioned so that the little fingers are over either edge of the Handle. The chain should be roughly parallel with the ground and the top row of knuckles on the hands, the wrists and the elbows should all be held flat in a straight line. The elbows should be drawn right past the body and should not be sticking out to either side. The shoulders and arms should feel loose and relaxed.



This is the Finish position, the user is now ready to start rowing.

Figure 1: The Finish Position

Arms Only Rowing The first stage is Arms Only rowing (see Figure 2). It is important to keep the legs and body still during this stage and concentrate on moving the arms alone. Arms Only rowing consists of extending the arms until they are straight and then picking up the load in the chain and smoothly pulling the Handle back towards the body. Don't move the body forward to the Handle. To use an indoor rowing style, keep the chain parallel with the floor and smoothly move the Handle out until the arms are straight and then pull it back towards the body and The Finish position. Keep repeating the cycle trying to achieve a smooth comfortable movement.

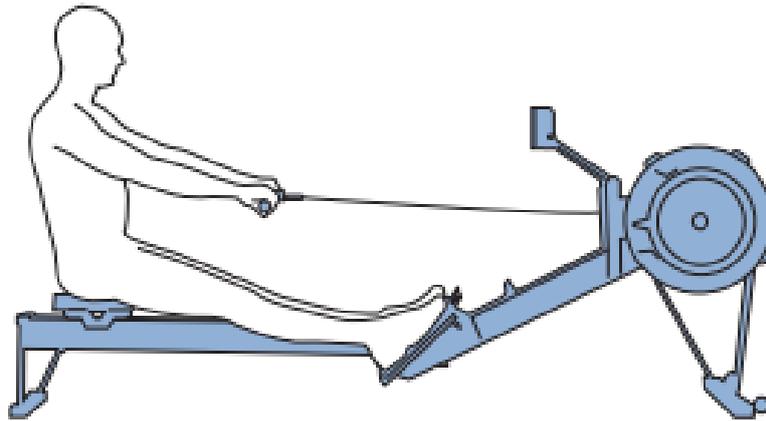


Figure 2: Arms only rowing

Body Rock When Arms Only rowing has been mastered and can be carried out smoothly and comfortably it is time to move to the next stage which is Body Swing or Body Rock (see Figure 3). To perform Body Rock rowing, the body rocks over slightly from the hips after the arms are fully extended. The amount of movement is from about 11 o'clock to about 1 o'clock on a clock face. The legs remain flat. There should be a gentle stretching sensation in the ham strings. It is important to keep sitting up and keep the back straight and in a strong position during this phase with all of the rock coming from the hips rather than the back bending. Also try and extend the arms fully before allowing the body to swing over so that it feels like the straightened arms are pulling the back forwards from the shoulders. Start the Drive by levering the body back against the resistance of the chain with the arms fully extended. Don't begin the Drive by pulling with the arms.

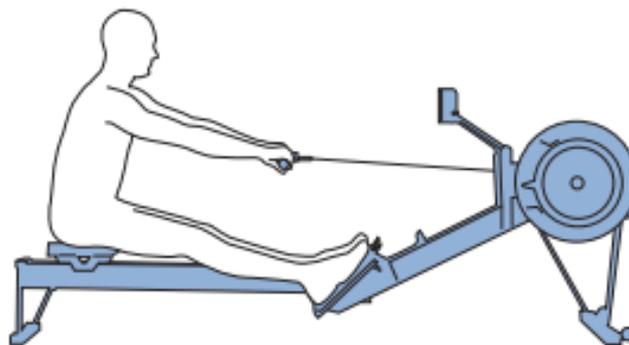


Figure 3: Body rock

Full Slide/The Catch: When Body Rock rowing can be carried out correctly it is time to move onto the next stage which is Full Slide. Allow the legs to bend at the knee so that the Seat slides forwards, all the while, focussing on keeping the arms extended and maintaining the body rock position. Allow the knees to continue to bend so that the Seat comes forward until the shins reach a vertical position. Make sure that the shins do not go past a vertical position and keep an upright sitting posture at The Beginning. The back should be in a strong braced position at The Catch. Focus on timing the Recovery correctly and developing a good ratio between the Drive phase and the slow, relaxed Recovery phase. Control the Recovery so that the Seat slows down as it comes to the front of the Slide. Maintain a good posture keeping the back in a strong upright position at The Catch. Once again start the Drive by pushing the legs down and levering the body back and keep the arms straight until the Handle passes over the knees. Stay relaxed, fluid, and smooth.

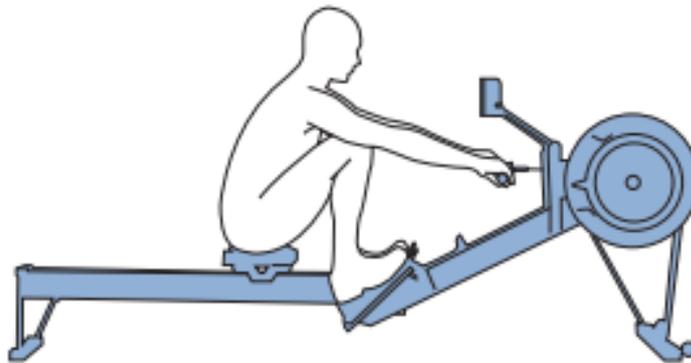


Figure 4: Full Slide/The catch

The Rowing stroke – In summary

The Finish

- The legs are flat
- The handle is drawn to the body and held lightly
- The body is inclined slightly back
- The elbows are drawn past the body.
- The forearms are horizontal and the wrists flat
- The shoulders are down and relaxed.

Arms extend

- The arms are relaxed and extended fully.

The Body Rocks forwards

- The body rocks forwards from the hips.

The Slide

- **AFTER** the arms have fully extended and the body rocked forward, slide forward maintaining arm and body position
- Legs should be parallel through the recovery to prevent knees touching or legs splaying apart.

The Drive

- Full Slide – The Catch
- Shins vertical with body pressed up to the legs. The arms are straight and relaxed.
- The position should feel comfortable.

The Start of the Drive

- The legs push down and the body begins to lever back.
- Do not start to use the body too early.

The Drive continued

- The legs continue to push as the body levers back.
- The arms remain straight. The body stops levering back
- The arms draw the handle past the knees and then strongly to the body, returning to the Finish position. Legs flat. Forearms horizontal.

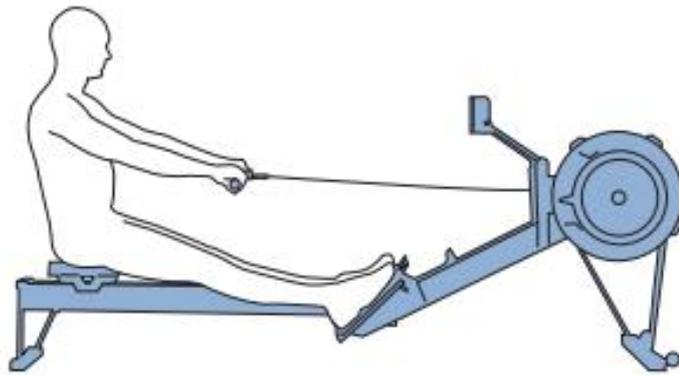
The Finish

- Lean back slightly, legs flat, handle drawn to the body.
- Forearms horizontal.
- You are ready to take the next stroke.

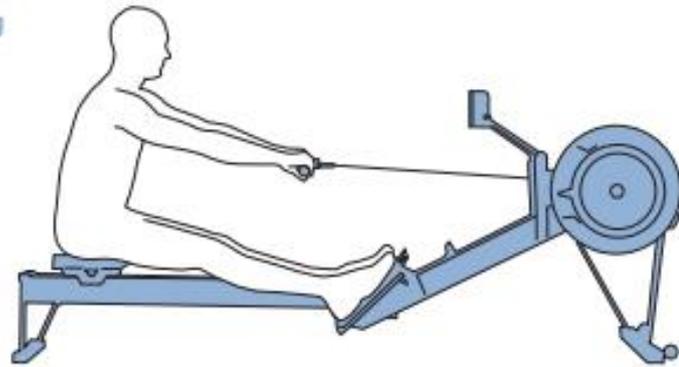
Appendix 3: Muscles used in Rowing

Use these images to ask the students which muscles are used in rowing. Images on the next page show which muscle groups are used.

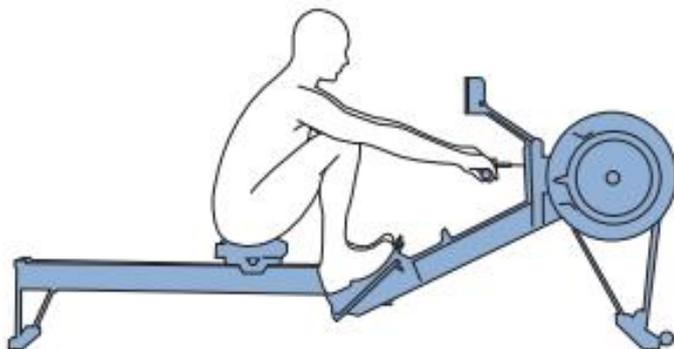
Arms Only



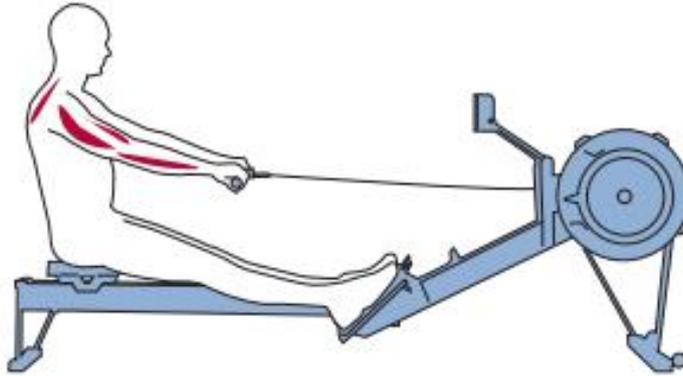
Arms and Body Swing



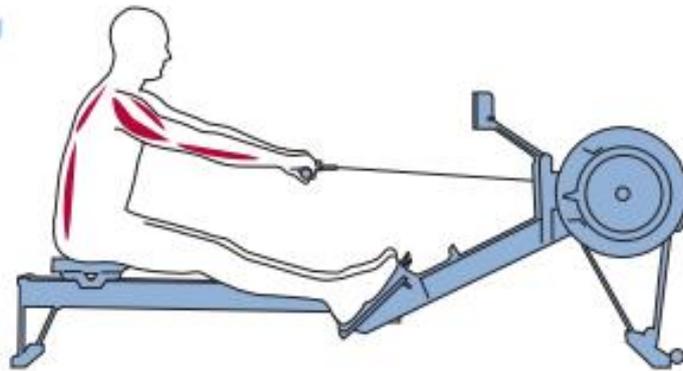
Full Slide



Arms Only



Arms and Body Swing



Full Slide



Appendix 4: Common Faults and how to correct them.

Faults

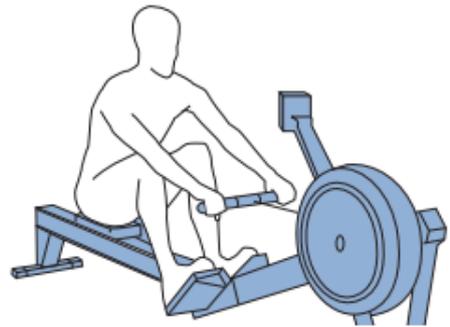
Solutions

1. Rowing with bent arms

When the arm supports a load in one position the muscle remains contracted. Contraction expels blood from the muscles reducing the oxygen supply, increasing lactic acid build-up and hastening fatigue.



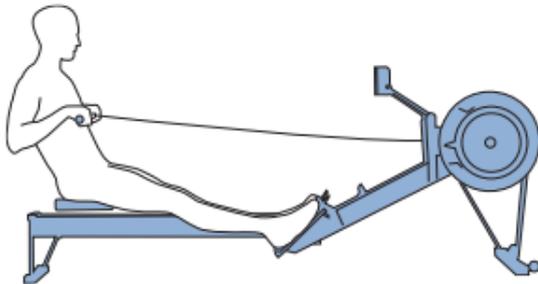
The rower starts the Drive by pulling with the arms rather than pushing with the legs.



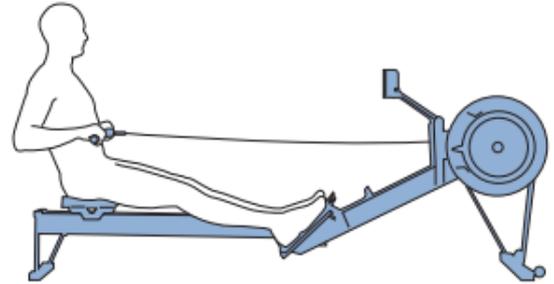
The Drive should start by pushing the legs and bracing the back with the arms fully extended and relaxed. The arms connect the legs and the back onto the handle.

2. Rowing with bent wrists

Work can be carried out more efficiently and the risk of injury reduced when the load passes through the centre of joints.



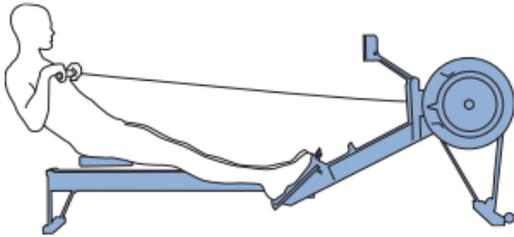
Rowing at various stages of the stroke with bent wrists.



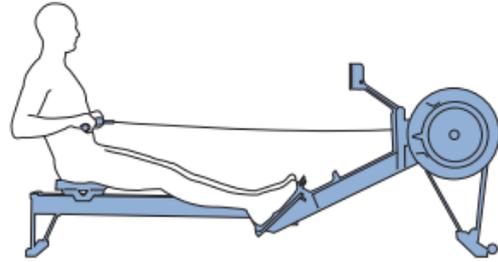
Always row with FLAT wrists. Check the hands at each stage of the Drive.

3. Pulling up too far and leaning back too much

Leaning back too far requires a great deal of energy to swing the body back through the upright position. The energy costs are greater than any gains through rowing a longer stroke.



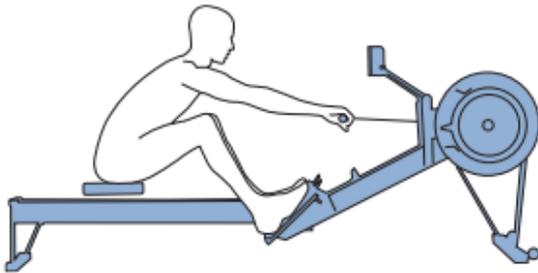
At the Finish of the stroke, the rower pulls the handle up too high and leans back too far.



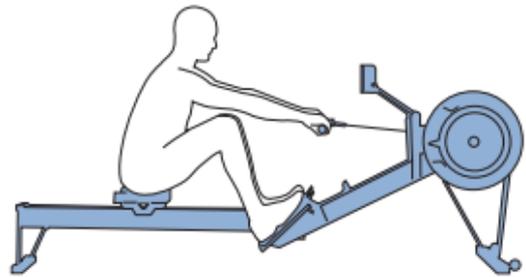
Draw the handle into the body. The wrists should be flat with elbows drawn past the body, forearms horizontal.

4. Slide shooting

The legs are the most powerful muscles in the body and are used to start the acceleration of the flywheel, which represents the greatest load. Any movement of the seat should result in a corresponding movement of the handle or the legs are not being used to the greatest effect.



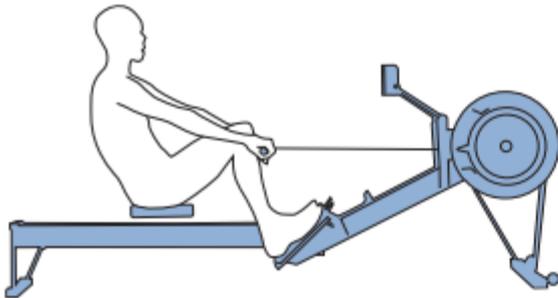
The legs push away too early, the back is not braced and so the power is not transferred onto the handle.



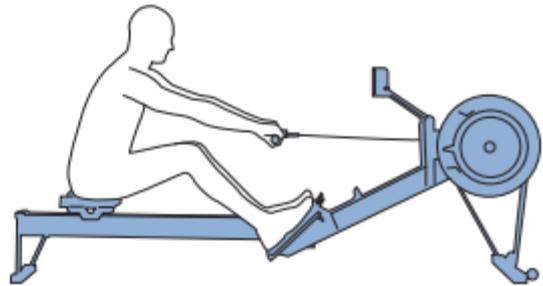
The legs begin the drive and the body levers back with straight arms transferring the leg power onto the handle.

5. Using the back too early

Using the back too early means that the weaker muscles are taking on the greater load and the stronger muscles are used when the load has decreased.



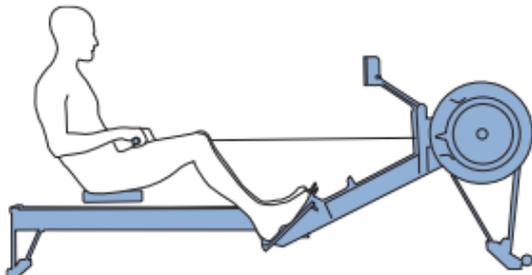
The rower starts the Drive by swinging the body back rather than pushing the legs.



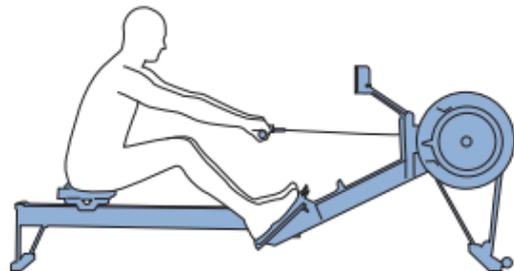
The legs begin the Drive and the body leans back with the arms fully extended and relaxed.

6. Knees up too early

At the beginning of the stroke you need to be balanced and in control to develop maximum power. If the recovery sequence of hands, body then slide is not carried out correctly then this will mean a last minute adjustment, throwing you off balance and out of control.



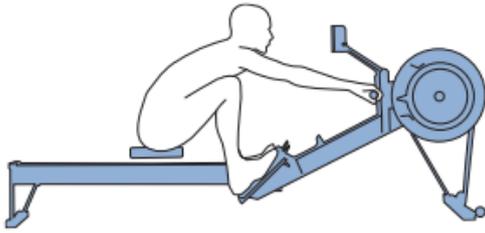
On the Recovery the rower slides forward before the handle has extended past the knees. The hands either hit the knees or they are lifted up to clear the knees.



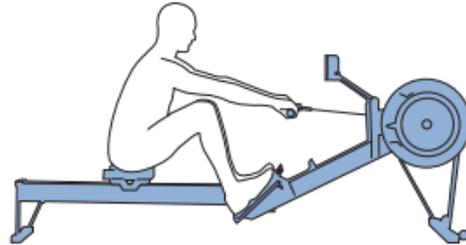
The Recovery sequence - hands, body, then slide. AFTER the arms have fully extended and the body has rocked forward, slide forward, maintaining the arm and body position.

7. Over reaching

Over reaching at the beginning of the stroke places the lower back at maximum flexion. If you then load it up there is a risk of tissue damage in this area.



The body stretches too far forward. The shins may be past the vertical. The head and shoulders tend to drop towards the feet. The body is in a weak position for the Drive.



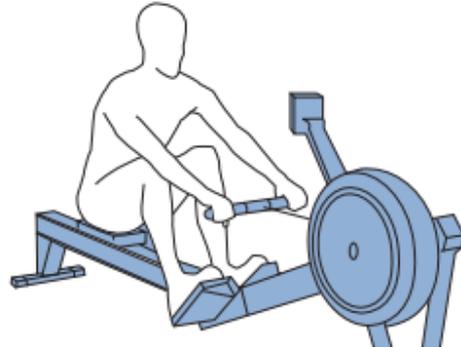
The shins are vertical. The body is pressed up to the legs. The arms are fully extended and relaxed, body tilted slightly forward. This position should feel comfortable.

8. Body too tense. Grip on handle too tight

The only muscles that should be contracted are those directly involved in moving the flywheel. Any muscles in the shoulders and neck that are not directly involved will just drain energy if tensed.



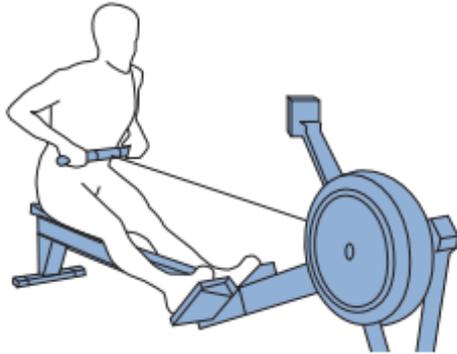
Teeth are clenched, shoulders hunched and the rower is gripping the handle too tightly.



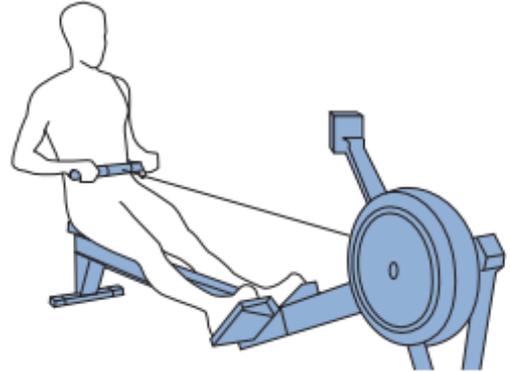
RELAX! Relax the shoulders down, unclench the teeth and relax the jaw. Keep a LIGHT hold on the handle.

9. Pulling the body to the handle

If you pull the body towards the handle there is an energy cost but it will not add anything towards moving the flywheel.



At the Finish, the rower, instead of pulling the handle to the body, pulls himself forward to the handle.



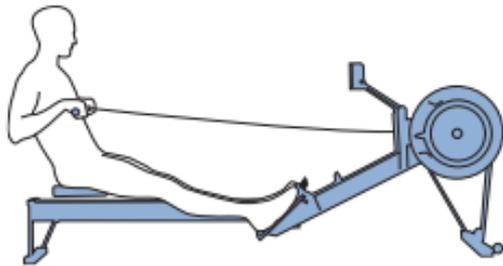
At the Finish the rower leans back slightly, holds the legs down and draws the handle to the body using the upper body as a firm platform.

Can you spot these faults?

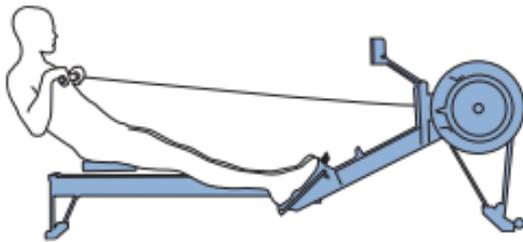
See if you can spot the faults below (see previous images for solution)



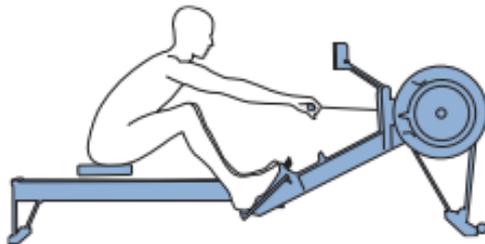
1:



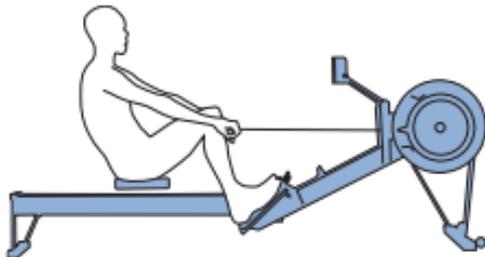
2:



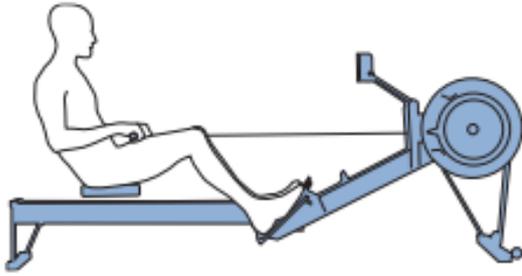
3:



4:



5:



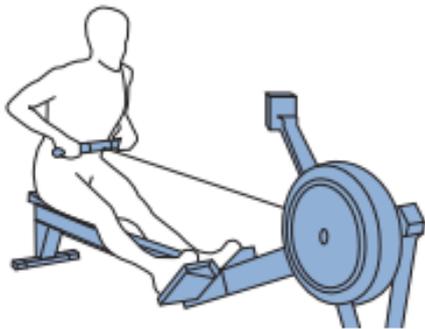
6:



7:



8:



9:

Appendix 5: The Performance Monitor (PM)

:14	23 ^s / _m
1:51	/500m
55 _m	
2:03.5	ave /500m
55	split meters
8104	projected m 30.00

Strokes per minute (SPM) - how many full movements in one minute

Your **split for 500m** - the lower this is, the quicker you will reach 500m

The **total distance in meters** you have rowed for the session

Projected distance you will row based on your current pace



Just Row – enables you to do just that – Just Row

Select workout - This will enable you pick pre-set Workouts

Turn on your machine by pressing the **Menu** button

Strokes Per Minute

For rowing, a stroke rate between 24 and 30 strokes per minute is typical for most workouts. When racing, stroke rates are generally a bit higher but usually still below 36.)

An important idea to understand is that an increased stroke rate does not necessarily mean that you are working out with more intensity. Instead, the key to increasing intensity is knowing how and when to apply power. Focus on getting as much power as you can into each drive/pull.

To focus on this power:

- Think of using a ratio of one beat on each drive for every three beats on the recovery. In other words, don't rush as you travel up the slide to take the next stroke. Instead, relax (count to 3) on the recovery as you prepare for the work of the next drive.

Split Time

Workout intensity is displayed on the monitor on a stroke-by-stroke basis and is expressed as either; Pace per 500 meters, Calories, or Watts.

Pace per 500 meters—How long it takes you to row or ski 500 meters: the smaller the value, the faster your pace. The monitor displays your pace per 500 meters for each stroke as well as your average pace per 500 meters for the workout.

Watts—Your power output, in watts: the higher the value, the more power created. The monitor displays watts for each stroke as well as your average watts for the workout.

Calories—The number of calories burned: the higher the value, the more calories burned. During a workout, the monitor displays the total calories burned and translates this to a calorie/hour value (when viewing results, the monitor displays the calorie/hour value).

Getting Started

- The PM turns on when you press the 'MENU BACK' button or pull the handle.
- The PM turns off automatically after four minutes of inactivity
- The first time you turn on the PM, you will be prompted to set the language, date and time.
- Important: Setting the date will allow your results to be stored correctly.



Operation

Lets you select one of four units for your results: meters (or time), time/500m, watts, and calories. This button is active in rowing displays, result screens, and when setting PaceBoat.



Lets you select one of five rowing displays: All Data > Force Curve > PaceBoat > Bar Chart > Large Print.



This button is only active from the rowing displays Returns you to the previous menu. From rowing displays, "MENU/BACK" ends the workout and returns you to the main menu.

Workouts

Pre-Set Workouts

There are three kinds of pre-set workouts in the PM: [Standard List], [Custom List] and [ReRow]. If you have a LogCard, you can also access [Favourite] workouts.

From Main Menu: [Select Workout]> [Standard List]> Select from the standard list of workouts that includes: 2,000m, 5,000m, 10,000m, 30 minutes and an interval workout of 500m/1:00. When you select a workout, it will automatically be set up on the rowing screen. The workout begins when you start to row.

From Main Menu: [Select Workout]> [Custom List]> Select from workouts that have previously been set up and stored. The PM comes with a list of custom workouts, but if you have a LogCard you can replace them with your own. With your LogCard inserted select [Set Workout]> [New Workout]>. When you have finished setting up the workout you will be asked if you wish to save the set-up to your Favourites. Later, you can use [More Options]> [Edit Custom List]> to copy one or more workouts from the LogCard to the PM memory.

From Main Menu: [Select Workout]> [ReRow]> Then select the type of workout you wish to ReRow. You will then be able to view a list of previous workouts. Select the workout you wish to ReRow. That workout will automatically be set up on the rowing screen and your previous performance will be used to drive the PaceBoat.

Favourites: (Only available with LogCard inserted) [Select Workout]> [Favourites]> Select a workout from the list of favourites previously programmed using [Set Workout]> [New Workout]> (see below).

Programming Workouts

The PM allows you to program your own specific workouts.

From Main Menu: [Select Workout]> [New Workout]> Then select the type of workout from: [Single Distance], [Single Time], [Intervals: Distance], [Intervals: Time] or [Intervals: Variable]. Enter the information needed to set up the desired workout, using the five side buttons next to the [▶], [+], [-], [◀] and [✓] symbols. When you have finished with the set-up, select [✓] for done. The PM will then be ready to start the workout as soon as you start to row.

When programming [Single Distance] or [Single Time] workouts – The PM allows you to program the duration of the workout, the split length for memory storage (see below) and the optional PaceBoat speed.

When programming [Interval Distance] or [Interval Time] workouts - The PM allows you to program the duration of each interval, the rest period in between each interval and the optional PaceBoat speed.

NOTE: For any interval workout the first interval starts when you begin to row. All other intervals start as soon as the rest period is finished.

When programming [Intervals: Variable] The PM allows you to set a different distance or time and rest period for each interval up to a total of 30 intervals.

Splits

Single piece workouts are split into segments called “splits” for storage and analysis. The PM will default to five segments or splits per piece. You can change this to a desired split time or distance. Note that a maximum of 30 splits are allowed per workout, and the minimum split size is 20 seconds for time or 100 metres for distance. There are no splits for interval workouts. Note that more splits require more storage space on the LogCard and if you choose to store more splits per workout, the LogCard will store fewer workouts.

Display Options

The PM has 5 Graphic Display Options which can be selected using the 5 side buttons or by repeated pressing of the "Change Display" button to cycle through the different choices. The options are as follows:

Large Print

Provides basic data in a large, easy-to-read format.

Time - How long you've been rowing or still have to row.

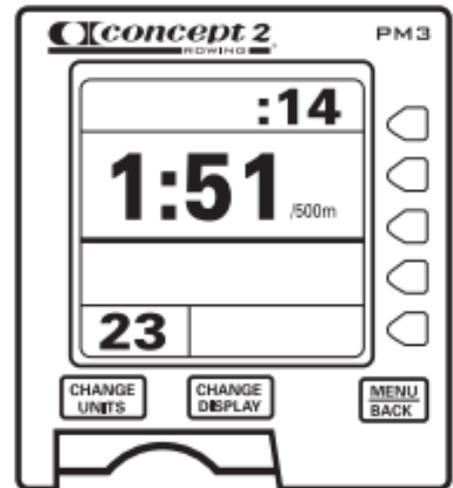
Stroke Rate - Measured in strokes per minute (s/m), updated every stroke.

Stroke Output - How hard you pulled on the last stroke. Displayed in a choice of three units: pace/500m, calories/hour and watts.

Total Output - Cumulative output since you started rowing. Displayed in a choice of four units: average pace, metres, calories and average watts.

Heart Rate - If a heart rate interface is attached to the Rower and you are wearing a chestbelt transmitter, this display will show your heart rate in beats per minute.

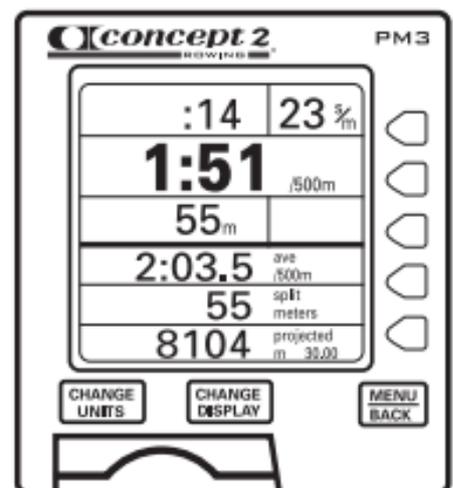
Note: The same basic data which appears in Large Print also appears in a smaller format in the top half of the screen of the other four displays.



All Data

Additional numeric information is displayed. The top line in the bottom half of the screen shows your accumulated score in time, metres or average time/500m depending on the units you have selected. During a Just Row, Single Distance or Single Time workout, the middle line shows your accumulating or average result for the current split. During a work interval the current interval number is displayed.

The bottom line is a projected score for your workout if you continue rowing at your current pace. During a Just Row workout your projected metres for a 30 minute row will be displayed. During a rest interval the total workout metres are displayed, including rest metres.



Batteries and Power Generation

The PM uses two alkaline D-cell or IEC CR20 batteries. It also self-generates if you are using a Model D Indoor Rower or a Model C with retrofit. Depending on the speed of rowing, the PM will generate some or all of the power needed for its operation. This will extend the life of your batteries.

Batteries are needed to maintain date, time, language, Custom List and Memory.

Batteries can be removed for five minutes without loss of this information, if the PM is turned off before the batteries are removed.

When your batteries are low, the following warning will display when you turn on the PM: "Replace batteries soon."

When your batteries are very low, you will be warned "Batteries too low for normal operation". If you keep the batteries in, and if you have the self-generation feature and start rowing fast enough, you will automatically go into Just Row mode. The display will work, but you will not be able to set up workouts, and your workout data will not be saved.

To change batteries, first allow the PM to power down so as not to lose any saved data. Then remove the cover, carefully pry the batteries out and replace within five minutes.

To view the current level of battery charge remaining select [More Options]>[Utilities]>[Battery]>

Battery Life Expectancy

- For Model B or C without retrofit: 300-400 hours.
- For Model D, or C with retrofit, normal use: almost the shelf life of the battery.

Additional Notes

Care of PM

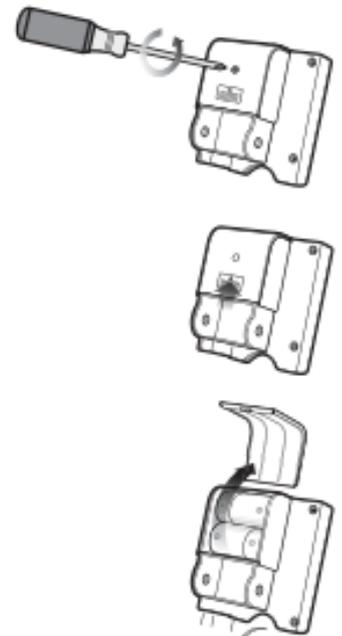
Clean with damp cloth only. Do not apply liquids directly to the PM.

Formulae

The following formulas are used to equate the units of measure:

$$\text{Watts} = 2.80 / (\text{sec}/\text{meter})^3$$

$$\text{Cal/hr} = \text{Kcal/hr} = (\text{watts}) \times (4) \times (0.8604) + 300$$



The Damper Lever and Drag Factor

The load on the Concept 2 Indoor Rower is unlike any normal resistance training equipment. There is no pre-set load; what is measured is the ability of the user to accelerate the flywheel overcoming the frictional force of the air opposing the flywheel rotation. The monitor display of the flywheel is a numerical calculation using the acceleration, speed of rotation and moment of inertia.

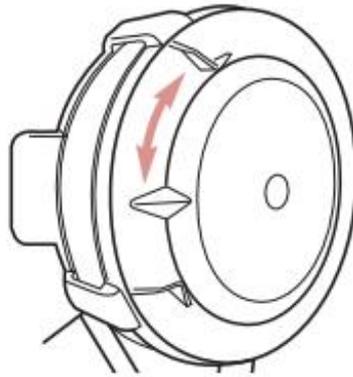


Figure 5: Damper Lever

The damper lever on the side of the fan cage controls the drag factor. With the damper set to level 10 more air can pass across the fan increasing the rate of deceleration (drag). The monitor detects the increase in drag and an adjustment is made to the pace readout.

The monitor displays the drag factor as a number in the order of 100 at level 1 and around 220 at level 10 on a new machine. If the perforations on the fan cage become clogged, then to achieve the same drag factor the damper lever will need to be put on a higher setting. The monitor detects the effect on the flywheel not the position of the damper lever so although the setting on different machines may not be the same, the drag factor reading will always be correct.

Rowers on water use the machine in the range of 130 to 140 or level 3 to 4. The reason for this is that at this level the feel is closest to that of a racing boat therefore making the training rowing specific. Non-rowers using the machine for cross-training or as a sport may benefit from a damper setting outside of this range.

As a rule, bigger heavier and stronger users would tend towards level 10 while smaller lighter users would benefit from a lower setting. It is a question of trial and error to find the most suitable setting for each individual. Once you have found the ideal set up note the drag factor rather than the damper lever setting, as this will remain constant across different machines

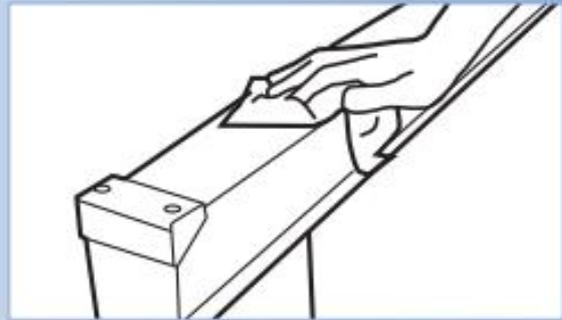
Maintenance of the Rowing Machine

Your Concept2 Indoor Rower is a sturdy, low maintenance machine. A little regular care will keep it in tiptop condition.

Recommended Procedures

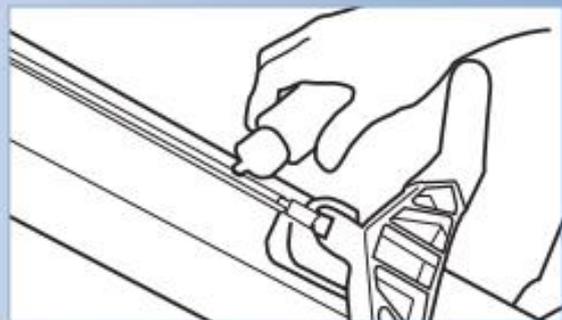
Every Week:

- Wipe the monorail with a clean cloth or non-abrasive wipe to prevent the build up of grime and compacted dust on the surface.



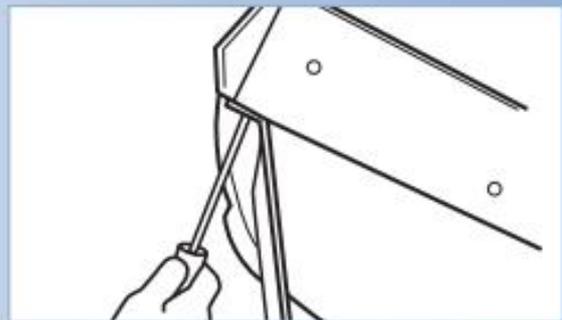
Every month:

- Clean and lightly lubricate the chain. Oil is provided with new machines but ordinary '3-in-1' oil is perfectly adequate.



Every month:

- **Screws:** Check the socket screws that secure the legs to the main body and tighten if loose. Lost screws should be replaced immediately.



Appendix 6: Stretching

Flexibility – Why is it so important?

Flexibility is a vital aspect of physical fitness. Good flexibility will allow you to move efficiently, with less effort and with less risk of injury. Physical training can cause muscle imbalance, with shortening and over activity in certain muscle groups with other groups becoming over stretched and lacking in tone.

A stretching programme should always take this into consideration, with the programme being directed at the muscle groups which have the tendency to become shortened or tight. Every sport has characteristic patterns of muscle shortening. Everyone will have their own tendency to muscle tightness. The following sections provide a basic guide to warm up and developmental stretching. Everyone should seek advice from a physiotherapist or fitness instructor as to the appropriate stretching regime for themselves and their sport.

Safety and Stretching

Participants should be responsible for preventing injury, familiarising themselves with potential hazards association with stretching (listed below) and taking steps to control them.

- Never stretch hypermobile tissue, active painful musculo-skeletal or inflamed tissues (sprains or strains in an acute state). If in doubt consult a physiotherapist of fitness instructor.
- Make realist goals before you begin a flexibility programme, setting yourself a realistic time scale to reach your ideal level of flexibility.
- At all times tune into your own body, never stretch into pain, or discomfort.
- Remember everyone is different, tailor the stretching regime to your own level of flexibility and needs of your sport.
- Always be accurate with your stretches, isolating the muscle group and tissues to be stretched and use correct technique. This means ensuring that the mechanics of the stretch are correct.
- Remember that flexibility training should be enjoyable and satisfying and should be an integral part of your overall fitness regime.

Stretching as part of a warm up (Pre-Workout)

The following points must be considered:

- Be warm before you start stretching. Wear plenty of clothing. It is better not to stretch at all than to stretch cold. Stretching cold can damage tissues.
- Always respect your body tissues; never stretch into pain, only to the point of tension.
- Stretch slowly – muscles and connective tissues respond best to long slow stretches (30 seconds for warm up stretching).
- Never bounce on muscle when stretching.
- Allow plenty of time to do your stretching.
- Never hang around after your warm up stretching; even a short delay will result in loss of warmth and flexibility.

- Breathing – Relaxed deep breathing (long slow exhalation followed by a short pause and then a passive inhalation followed a brief pause) facilitates relaxation and can therefore enhanced stretching, and is of value in developmental stretching.

Developmental Stretching (Post-Workout)

- Characterised by longer holds than in warm up stretching (two minutes plus).
- Should always be performed after a training session when body temperature is at its highest. Allow plenty of time to do your developmental stretching regime. Should be selective to the muscle groups that are tight in everyone.
- Post exercise stretching will overcome the shortening effects of exercise and is known to reduce post exercise muscle soreness.
- Always respect your tissues; never stretch into pain: only to the point of tension.

Warm up/Pre-exercise stretches should be held for 8 - 15 seconds and should be done 2-3 times. Cool down/Post-exercise stretches should be held for 45 - 60 seconds and should be done 2-3 times. For flexibility, each stretch should last for 45 - 60 seconds and should be repeated 3 -5 times at least

Examples of stretching exercises



Neck Extensors - flex the chin to the chest.



Scalenes - facing forwards, bring the ear towards the shoulder taking care not to lift the shoulder.



Deltoids - Reach across the front of the body, using the other arm to draw the arm across. Ensure that the shoulders are kept low.



Triceps - place your right hand behind your neck. Use the left hand to apply pressure to the elbow, drawing the elbow behind the head. Ensure shoulders are relaxed.



Pectorals/Biceps - Stretch both arms behind you, keeping the elbows straight and the thumbs pointing upwards. Ensure you do not bend forwards.



Wrist flexors - with the elbow straight use the left hand to apply the stretch by drawing the palm away from the floor, keeping the fingers straight



Wrist extensors - with the elbow straight use the left hand to apply the stretch by bending the wrist, bringing the palm towards the floor, keeping the fingers bent



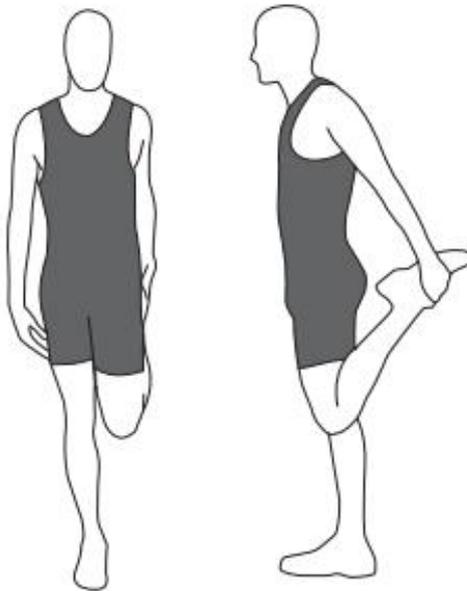
Trunk Stretch - with feet shoulder width apart, stretch right arm up towards the ceiling and over to the left, keeping the body in one plane.



Gastrocnemius & Soleus - Stand astride, stretch forward over the front leg, keeping the knee over the foot. Keep the back knee straight, keep both heels in contact with the floor.



Hamstrings, Gastrocnemius & Soleus - stand astride with your front foot resting on your heel with toes pointing upwards. Stretch forward over the front leg bending your back knee keeping the heel on the floor. Use your arms to support your weight on your bent knee.



Quads - keeping your inner thighs and knees together push your right foot into your hand and push the hips forwards



Hip Flexors Psoas/Quadriceps - stand astride, stretch forwards, dropping the right knee towards the floor, allowing the heel to raise. Keep the body upright.



Hamstrings - Sit on the floor, bend the left knee and slide heel towards the right inner thigh. Keep your back straight and flex from the hip, moving your torso towards the right thigh.



Hamstrings - lie flat on the floor, lift the right leg with the knee bent until the hip is at a right angle to your body. Holding around the thigh, gently straighten the leg until you feel the stretch. Left leg should be slightly bent.



Glutes/Piriformis - Lie flat on your back with the left knee bent. Place the right heel on the left knee. Take hold around the left thigh and draw up towards your chest.



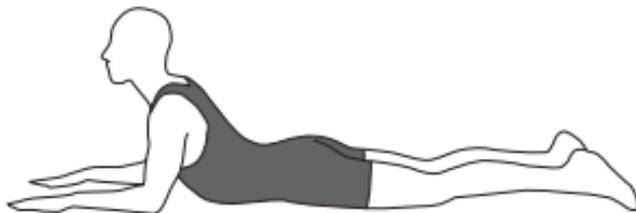
Erector Spinae - Lie on your back with knees bent; feet on the floor, grasp around your knees and pull your thighs towards your chest.



Rhomboids and Latissimus Dorsii - Kneel on all fours, arms straight in front and spread slightly apart. Lower your chest to the floor, keeping the pelvis still.



Piriformis, Buttock & Lateral Torso - sit upright on the floor, cross the right foot over the left and slide the heel of the right foot towards you. Tuck the right hand behind your hip. Place the left hand on the outside of the knee to apply the stretch. Turn your head to face the right shoulder.



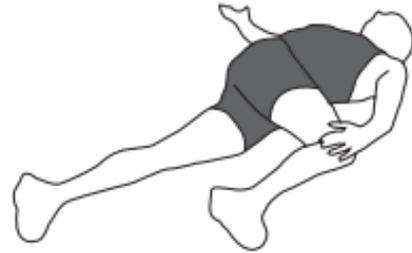
Rectus Abdominus - lie face down, place your hands under your shoulders, fingers pointing forwards. Straighten your arms gently until you feel resistance. Stretch your shoulders and chin forward.



Abductors - stand astride, feet facing forwards, keep the right leg straight, bend the left knee and stretch until the knee is over the left foot.



Pectorals, Obliques & Hamstrings - lie on your back with your arms out to the sides. Bend the right knee and move it to the left. Gently straighten the right knee until you reach the point of tension. Keep the head, shoulders and arms flat on the floor.



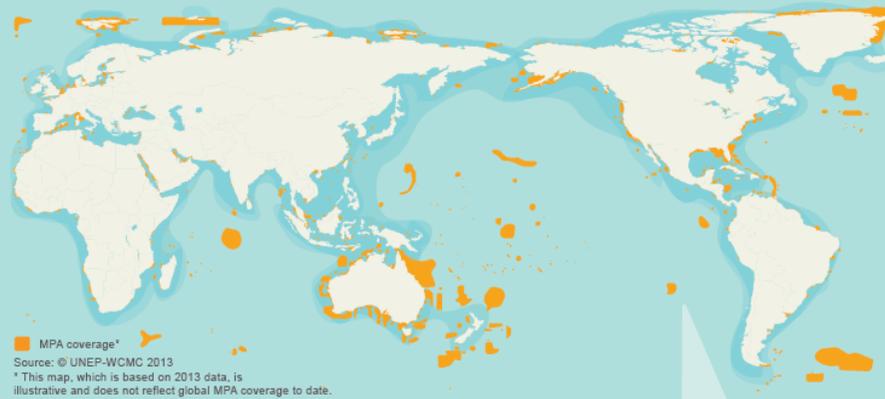
Pectorals, Obliques & Glutes - as previous stretch but grasp the right knee with the left hand and gently let it rotate across the body and onto the floor. Keep the head, shoulders and arms flat on the floor.

WHAT ARE THE BENEFITS OF A HEALTHY OCEAN? HOW MPAs CAN CONTRIBUTE

ECOSYSTEMS ARE DEGRADED



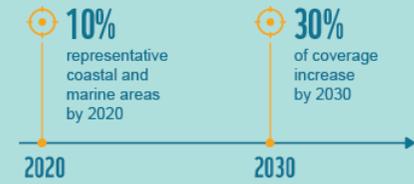
A healthy ocean provides myriad benefits to people and sustains life on Earth. By protecting key ecosystems, processes, habitats and species, well managed marine protected areas (MPAs) can contribute to the restoration and replenishment of resources for social, economic and cultural enrichment.



WELL MANAGED MPAs ARE PART OF THE SOLUTION



We need to conserve and effectively manage:



LIVELIHOODS

90% Most people who derive livelihoods from fishing live in developing countries

About 350 million jobs are linked to the ocean globally

FOOD

Fisheries are an important source of protein for billions of people

CLIMATE

50% The ocean produces half the oxygen we breathe and absorbs 30 per cent of CO₂

MARINE TOURISM

Tourism is the world's largest industry

The marine tourism industry provides 200 million jobs worldwide

COASTAL PROTECTION

Wetlands, seagrass beds, mangroves and coral reefs are natural defences to protect coastlines

BENEFITS OF A HEALTHY OCEAN GLOBALLY

RESILIENCE

A healthy ocean will cope with negative impacts better



SPILLOVER EFFECT

Most fish don't take up permanent residence in MPAs – the benefits extend beyond the boundaries.

CASE STUDIES:

Primeiras and Segundas, Mozambique

In 2010, the CARE-WWF Alliance's program in Primeiras & Segundas helped establish two no-take zones in collaboration with the local government. After 5 years, species diversity has increased 3 to 4 fold and the communities witness bigger fish outside the MPAs.

Medes Islands MPA, Spain

The Medes Islands form a multiple-zone MPA, with fish spilling out from the MPA's no-take zone into the adjacent areas. This spillover benefits both fishermen and scuba divers, who contribute several million dollars per year to the local economy.

How to fast-track ocean protection now

- Implement ecologically coherent networks of well managed MPAs to meet global targets
- Design and manage MPAs to enhance social and ecological benefits
- Support and implement the Ocean Goal in the UN Post-2015 Development process
- Develop a comprehensive and strong new UN high seas biodiversity agreement
- Create financial mechanisms and develop public/private partnerships to increase investments in MPAs

Sources:

Cesar et al 2003, FAO 2014, Pisher et al 2014, Hoegh-Guldberg 1999, Hoegh-Guldberg et al 2007, IPCC 2013, Merino et al 2009, Nellemann et al 2009, Small and Nicholls 2003, Spalding et al 2013, Thomas et al 2014, UNEP 2014, Waycott et al 2009, World Bank 2009