

Section 1 :

Before and After Exercise

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Section 1 : Before and After Exercise

Exercise Guidelines

Before you start on your training programme it's important to understand, and abide by, the health and safety procedures involved in indoor rowing. Therefore please take time to read through this section carefully. That way you can avoid any unnecessary problems or injuries and get the most out of your programme, both in terms of performance and enjoyment.

Effective Exercise

The American College of Sports Medicine makes the following recommendations for the quality and quantity of training for developing and maintaining cardio-respiratory fitness in healthy adults:

- The activity should be one that uses large muscle groups, is maintained continuously and is rhythmical or aerobic in nature.
- The duration should be from 20 to 60 minutes, of continuous activity.
- Training should be regular; three to five times a week.
- The intensity of training should raise the heart rate to 60 to 85% of maximum heart rate (MHR).
- Strength training of moderate intensity should be added twice a week.

Safe Exercise

Indoor rowing is a safe and beneficial form of exercise. If you observe a few simple safety procedures, you can sustain an effective fitness programme with minimal risk. However, before you start, check through these routine precautions for your safety and comfort:

Personal Well-Being

- It's wise to have a health check before starting an exercise programme. **You should never exercise if unwell.**
- Always warm up, cool down and stretch thoroughly before and after each training session (see Warm Up, Cool Down, and Stretching in Section 1 : Before and After Exercise).
- It's important to warm up the muscles with some light rowing before you start stretching. If required wear a tracksuit (or equivalent) to help keep the muscles warm.
- Take time to develop good technique before increasing training intensity (see Section 2 : Technique on the Indoor Rower).
- When beginning an exercise programme don't overdo it; start slowly and build up gradually.
- Drink plenty of water during and after exercise. Don't wait until you are thirsty.
- Ensure you train at an appropriate intensity. We recommend you base your training intensity on your heart rate (see Training Intensity in Section 3 : Physiology).
- Keep a training log to help set realistic goals and targets and plan future programmes of work (see Training Log in Appendix).

Machine Protocol

- Check the handle, seat and monorail are clean.
- Adjust the damper setting to give the correct drag factor for your workout (see The Damper Lever and Drag Factor in Appendix for an explanation of how the damper works).
- Place the handle in the handle hook before securing your feet.
- Adjust the footrests. If you have long legs, you may need to lower the footrests. 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, pull from side to side or let go of the handle whilst rowing.
- Keep clothing, hair and fingers away from the seat rollers.
- When you finish your exercise, place the handle in the handle hook, then, after releasing your feet, return the handle to rest against the chain guide/monitor support.
- Always ensure that the machine is properly maintained.

Warm Up

The aim of a warm up is to prepare the athlete both physically and mentally for exercise. When starting exercise, the body begins to release adrenalin, which increases the heart rate and causes dilation of the capillaries in the muscles. This has the dual function of increasing the temperature and elasticity of the muscles to help prevent injury and improve the speed at which oxygen can be transported around the body. The increased temperature allows the enzymes required for the muscular contraction to function more efficiently. Warm ups also make us more alert as the increased body temperature allows nerve impulses to travel more quickly, improving the reaction time. There are also psychological benefits of a warm up, especially if you are superstitious and perform the same routine every time you exercise or compete.

Training Warm Ups

The warm up necessary for training sessions will depend on the type of work involved in the session. The lower the intensity the less time required to warm up. This also applies to time taken in the cool down. This should be gentle rowing with heart rate at twice your resting heart rate.

Table 1.1

Warm-up/Cool Down Times for Training Sessions		
Type of Session	Warm-up	Cool Down
UT2	5-8 mins	5-8 mins
UT1	8-10 mins	8-10 mins
AT	10-12 mins	10-12 mins
TR	12-15 mins	12-15 mins
AN	15-20 mins	15-20 mins

Competition Warm Ups

Pre-competition warm ups should prepare you for maximum intensity exercise. For this reason they should start with a gentle warm up row until your heart rate is twice your resting rate. At this point you should stretch the muscles required in the competition. Once this is done, return to gently rowing until your heart rate has returned to twice your resting level. Once you have reached this point you should include a number of high intensity bursts; these should be no longer than ten strokes in length and you should do no more than four bursts in total. The time between bursts should be governed by the time it takes your heart rate to return to normal warm up level. Finally a 13 to 15 stroke start should conclude the work, then row gently until your heart rate has returned to warm up level.

Cool Down

The cool down, like the warm up, is a very important part of each training session and competition. The purpose of the cool down is maintaining light, continuous exercise to allow your body to pump oxygen around the fatigued muscles. This will help to remove the lactic acid that has built up in the muscles during exercise. A cool down reduces blood pooling in the muscles, which can lead to dizziness, and can also limit the soreness experienced in the muscles during the days after strenuous exercise. A good cool down should consist of five to 15 minutes of light continuous exercise followed by stretching.

Stretching

The stretching that you do in the warm up and cool down has different purposes. In the warm up stretching allows a slight increase in flexibility that will result in improved performance and reduce the likelihood of injury. In the cool down stretching has the purpose of helping the body to remove some of the build up of lactic acid in the muscles and to improve flexibility. For these reasons the stretching in the warm up and cool down are of different durations.

Stretching Guidelines

- Regular stretching is important in improving flexibility and should be continued regardless of what stage of a training programme you have reached.
- It takes time to make significant progress with stretching exercises. Start by selecting just a few simple exercises to begin stretching each muscle group. Then, very gradually, increase the number of stretches and condition the muscles to greater degrees of stretch.
- It's important to warm up the muscles with some light rowing before you start stretching. If required wear a tracksuit (or equivalent) to help keep the muscles warm.
- Stretching should be done slowly, with no jerking or bouncing movements. Move into the stretching position slowly, continuing until a good stretch on the muscles is felt. Never stretch to the point of pain.
- In the warm up, after reaching a good stretch position, hold it for eight to 15 seconds. In the cool down this can be increased to 45 to 60 seconds. After each stretch release the body slowly from the position.
- The muscle being stretched should be as relaxed as possible. Stretch both sides of the body equally.
- Stretching exercises are not meant to be competitive. Do not compare progress with others as over-stretching can lead to injury. Just as important, the overly flexible should be excluded from the stretching programme.
- Although the ageing process brings about stiffness and increasing lack of mobility, regular stretching programmes, especially yoga, can bring about great improvement.

Warm Up Stretching

During the warm up ten to 15 minutes should be found to stretch. These stretches should last eight to 15 seconds in duration and should be focussed on the muscles that will be used during exercise. This will lead to improved performance and reduce the likelihood of injury.

Cool Down Stretching

After the cool down exercise has been completed a stretching session should be undertaken. This is the best time to improve your flexibility as the muscles are warm. If necessary a tracksuit or other loose clothing should be worn to maintain the high body temperature. During the cool down the focus is on improving flexibility by holding the stretches for 45 to 60 seconds.

Flexibility Training

If you find that your flexibility is not as good as it should be then introducing an extra flexibility session will help you make good improvements. This session does not need to follow exercise and can be done anywhere. Ensure that the muscles are warm by either exercising lightly or having a hot bath then stretch, holding each position for 45 to 60 seconds and repeating each stretch three to five times. This can be done in front of the TV or whilst reading.

Recommended Reading

More information about stretching can be found in the following books, available from good book shops;

- **Bob Anderson, Jean Anderson (Illustrator) : *Stretching***
Shelter Publications, 2000
ISBN: 0936070226
- **Pavel Tsatsouline, *Relax into Stretch : Instant Flexibility Through Mastering Muscle Tension***
Dragon Door Publications, 2001
ISBN: 0938045288
- **Michael J Alter, *Sport Stretch***
Human Kinetics Europe Ltd, 1998
ISBN: 0880118237

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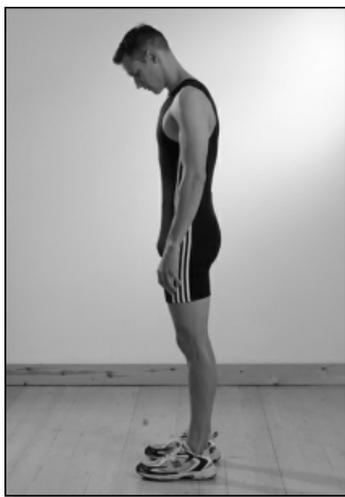
Stretching Exercises

Warm up/pre-exercise stretches should be held for eight to 15 seconds and should be done two to three times.

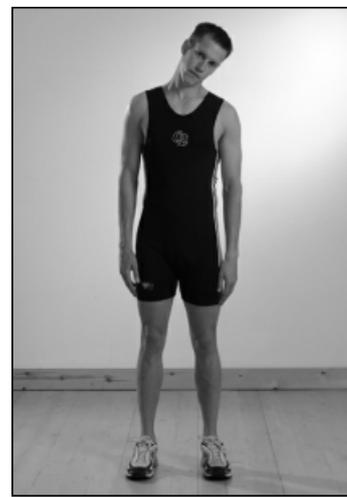
Cool down/post-exercise stretches should be held for 45 to 60 seconds and should be done two to three times.

In a flexibility session each stretch should be held for 45 to 60 seconds and should be repeated three to five times at least.

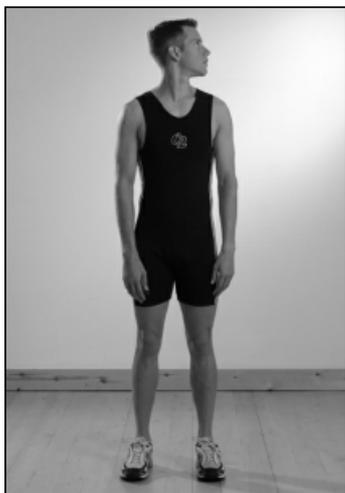
Where stretches can be done on both sides of the body only one side is shown. Ensure that you stretch both sides equally.



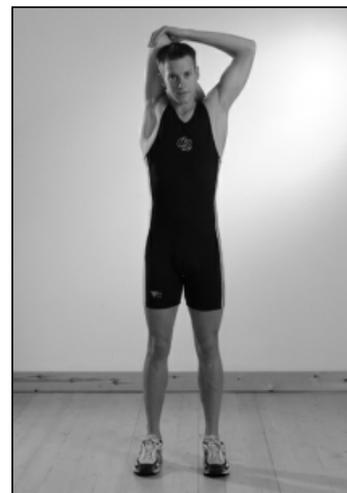
Neck extensors - flex the chin to the chest.



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



Upper Trapezius - turn the head to look over the shoulder, take care not to turn the body.

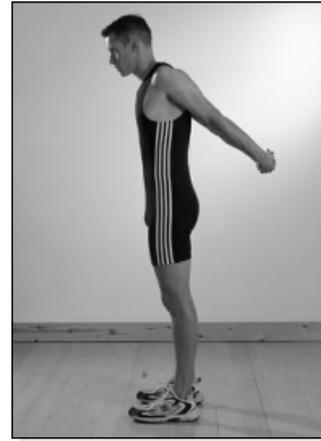


Triceps - place your right hand behind your neck. Use the left hand to apply pressure to the elbow, drawing the elbow behind the head. Ensure shoulders are relaxed.

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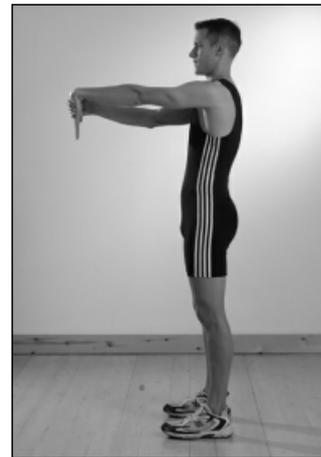
Deltoids - reach across the front of the body, using the other arm to draw the arm across. Ensure that the shoulders are kept low.



Pectorals/Biceps - stretch both arms behind you, keeping the elbows straight and the thumbs pointing upwards. Ensure that 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 straight.



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

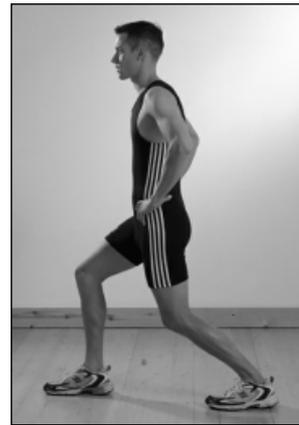


Rhomboids - standing with feet shoulder width apart, hold your left hand with your right hand out in front of you, keeping your arms horizontal. Reach forwards, keeping the body upright, until you feel a stretch between your shoulder blades.

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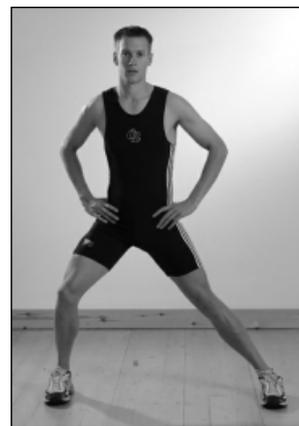
Gastrocnemius and Soleus - stand astride, stretch forward over the front leg, keeping the knee over the foot. Keep the back knee straight, keep both heels in contact with the floor.



Achilles - as for the Gastrocnemius and Soleus but bend the back leg bringing the knee towards the floor, keeping the heels on the floor.



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



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



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



Hamstrings, Gastrocnemius (straight leg) and Soleus (bent leg) - stand astride with your front foot resting on your heel with your toes pointing upwards. Stretch forward over the front leg bending your back knee, keeping the heel in contact with the floor. Use your arms to support your weight on your bent knee. Keep your back flat and head up.

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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 left leg with the knee bent until the thigh is at a right angle to your body. Holding around the thigh, gently straighten the leg until you feel the stretch. The right leg should be bent with foot flat on the floor.



Hamstrings - keeping the back flat, reach over towards the right foot, feeling the stretch in the back of the right thigh.



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



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

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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.



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.



Piriformis, Buttock & Lateral Torso - sit upright, place your left foot flat on the floor and place the right elbow behind the left knee. The left hand should provide support behind the body. Twist your upper body towards the left hand.