



Royal Berkshire
NHS Foundation Trust

Pulmonary Rehabilitation after COVID-19-related illness

Exercise Book

Name: _____

Exercising safely

Follow these simple rules:

- Always warm-up and cool down after exercising.
- Wear loose, comfortable clothing and supportive shoes.
- Wait at least an hour after a meal before exercising.
- Drink plenty of water.
- Avoid exercising in very hot weather.
- Exercise indoors in very cold weather.

Stop exercising if you feel any of the following symptoms:








- Nausea (feeling sick).
- Dizziness or light headedness.
- Severe shortness of breath.
- Clamminess or sweating.
- Chest tightness.
- Increased pain.



How hard should I exercise?

Use the Borg scale below to monitor your breathlessness during exercise. You should be aiming to work at a score of 3-4.

Modified Borg Dyspnea Scale

| | | |
|------------|------------------------------------|---|
| 0 | Nothing at all |  |
| 0.5 | Very, Very Slight (Just Noticable) | |
| 1 | Very Slight |  |
| 2 | Slight | |
| 3 | Moderate |  |
| 4 | Somewhat Severe | |
| 5 | Severe |  |
| 6 | | |
| 7 | Very Severe |  |
| 8 | | |
| 9 | Very, Very Severe (Almost Maximal) |  |
| 10 | Maximal |  |

When exercising, try saying this sentence:

“This exercise programme is going to do me good”

- If you can speak the whole sentence without stopping and are not feeling breathless, then you can exercise harder.
- If you cannot speak at all, or can only say a word at a time and are severely breathless, then you are exercising too hard.
- If you can speak the sentence, pausing once or twice to catch your breath, and are moderately to somewhat severely breathless, then you are exercising at the right level.



It is normal to feel breathless when you exercise. It is not harmful or dangerous.

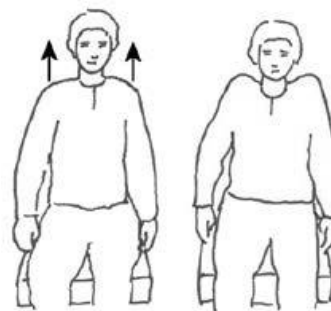
Gradually building your fitness can help you to become less breathless

Warm up exercises

Warming up prepares your body for exercise to prevent injury. Your warm up should last around 5 minutes. At the end you should feel slightly breathless. The exercises can be done in standing or sitting. Repeat each movement 2-4 times.

1. Shoulder elevation

- Raise your shoulders slowly up towards your ears, and down again.
- Breathe in as you raise your shoulders and breathe out as you let your shoulders down.



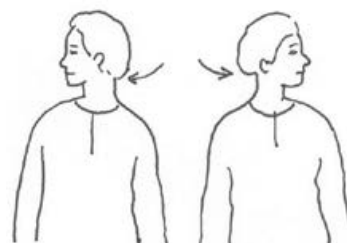
2. Shoulder circling

- With your arms at your side, **slowly** circle your shoulders backwards.
- **Slowly** circle your shoulders forward.



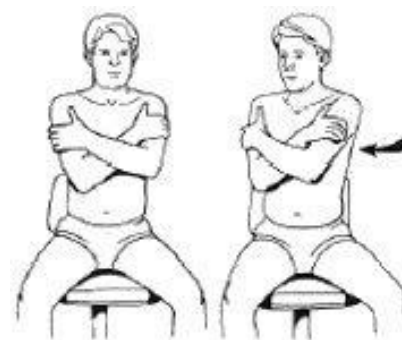
3. Head rotations

- Slowly turn your head to look over one shoulder, whilst breathing in.
- Slowly bring your head back to centre, whilst breathing out.
- Repeat the exercise, turning your head to the opposite shoulder.



4. Trunk rotations

- Can be done in standing or sitting
- Place your hands across your chest and keep your hips and knees facing forwards.
- Breathe **out** whilst twisting your shoulders around as far as possible to your right, to look over your right shoulder.



- Breathe **in** as you return to the centre.
Repeat, twisting around to look over your left shoulder.

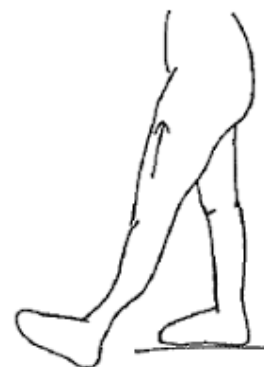
5. Side bends

- Stand with your feet hip width apart and your arms by your side.
- Slide your right hand down towards your knee until you feel a stretch on the opposite side.
- Do not lean forwards or backwards.
- Return to standing and repeat on the opposite side.



6. Heel digs

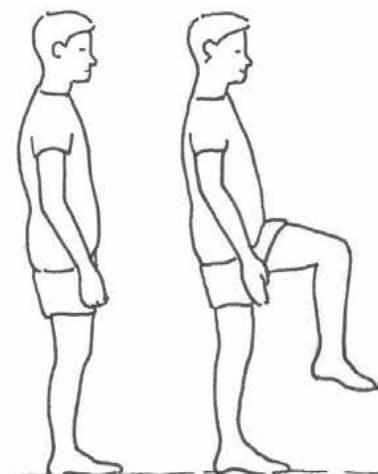
- In standing tap one heel on the floor in front of you.
- Place your feet back together and repeat with the other leg.



Timed: 1 minute

7. Knee lifts

- In standing, slowly lift one knee up, to no higher than your hip, then slowly lower down.
- Repeat with the other leg.

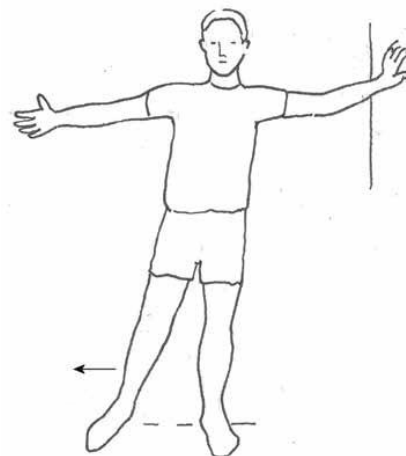


Timed: 1 minute

8. Toe taps to the side

- In standing, using a chair for balance if needed.
- Tap your right foot out to the side.
- Bring it back to join the other leg.
- Repeat with left leg.

Timed: 1 minute



9. Marching on the spot

- Stand up straight with feet hip width apart.
- Lift knees up and down at a gentle pace.
- Breathe rhythmically.

Timed: 1 minute



Aerobic exercises

You should aim to do aerobic exercise for 20-30 minutes, 5 days each week. You should aim to feel moderately breathless.

Time your aerobic exercise and gradually build the amount of time you can manage. This may be in small increases such as an additional 30 seconds or 1 minute of activity.

1. Marching on the spot

- Stand up straight with feet hip width apart.
- Lift knees up and down.
- Breathe rhythmically.
- If you can do this easily add arm swinging to the move.

Timed: Aim to build up to 5 minutes.



2. Step ups

- If you have stairs, use the bottom step.
- If you don't have stairs, use a **very** stable step.
- If you are unsteady, hold onto a rail.
- Step up with your right leg.
- Step up with your left leg to join the right.
- Step down off the step, one leg at a time.
- It is important to breathe rhythmically and do not hold your breath.



Timed: Aim to build up to 5 minutes.

3. Walking

- Use a walking frame or stick if needed.
- Choose a route that is relatively flat.
- Start a walking programme (see walking log at end of booklet). Your physiotherapist will advise you on the walking speed to gain maximal benefit.

Aim to build up to 20 minutes continuous walking. To progress include walking uphill in your route.

4. Cycling

- Your physiotherapist will assess your starting resistance and time.

Aim to build up to 10-15 minutes continuous cycling.

Strengthening exercises

Strengthening exercises will help improve muscles that have become weaker as a result of your illness. You should aim to do **3** sessions of strengthening exercises each week.

You should aim to complete 3 sets of 10 repetitions of each exercise.

Your physiotherapist will guide you to the correct starting weight. Take a short rest in between each set. Once you can easily complete 3 sets of 10 then use heavier weights to make your muscles work harder.

Breathe out on the hardest part of the exercise.

'Blow as you go technique'

1. Bicep curls

- Sitting with your elbows by your side and keeping your back straight.
- Hold a weight in each hand.
- Bend one arm towards your shoulder while breathing out.
- Whilst breathing in, slowly lower your arm until the elbow is straight.
- Repeat with the opposite arm.



Progress to doing the exercise while standing and by increasing the weight.

2. Wall push off

- Stand facing a wall, approximately 15-20cm away.
- Place your hands flat on the wall at chest level.
- Keeping your body straight at all times, slowly lower your face and chest towards the wall, by bending your elbows.
- Breathe out and push back to the standing position.



Progress this exercise by standing further away from the wall.

3. Shoulder press

- Sit with your arms by your side.
- Hold a walking stick in your hands.
- Bring the stick up to your chest.
- Now push your arms out straight to the ceiling.
- Bring your hands back to your chest.
- Finally bring your hands back to your sides.
- Breathe IN as you bend your arms up.
- Breathe OUT as you take your arms out straight to the ceiling.



Progress to doing this exercise in standing and try using weights instead of a stick.

4. Sit to stand

- Sit slightly forward on a firm chair.
- Make sure your feet are under your knees.
- Fold your arms.
- Whilst breathing out, lean forwards and stand up. Stand up straight and take a breath in.
- **Slowly** sit down again whilst breathing out.



5. Knee extension

- Sitting on a chair with your feet side by side.
- Straighten one leg out in front of you and hold for a few seconds.
- Slowly lower your foot back to its starting position.
- Repeat on the other leg.



Progress to using ankle weights.

6. Squats

- Stand with your back against a wall, with your feet slightly apart or hold onto a stable surface.
- Keeping your back against the wall, or holding onto a chair, slowly bend your knees a short distance. If against the wall, your back will slide down the wall.
- Keep your hips higher than your knees your knees as far as you feel comfortable.
- Pause for a moment then as you breathe out slowly straighten your knees.



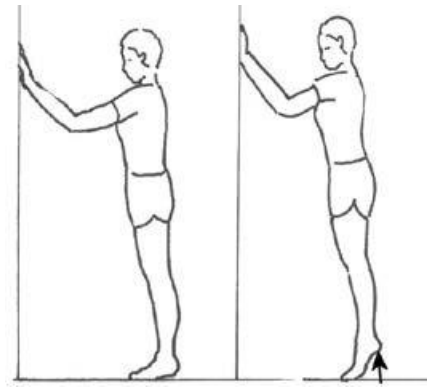
PhysioTools Ltd

To progress the exercise, increase the distance you bend your knees; increase the time you pause before straightening your knees.

7. Heel raises

- Stand up straight, with your feet hip-width apart and your weight balanced evenly.
- Rest your hands on a firm surface for support.
- Lift up onto the balls of your feet.
- Gently lower down until your feet are flat on the floor once more.

Progress to single leg heel raises.



Cool down exercises

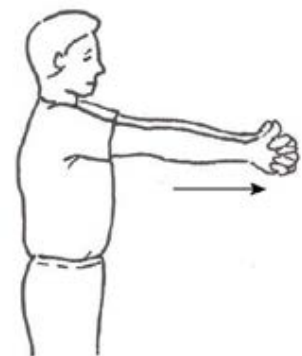
Cool down exercises allow your body to return to normal before stopping exercise. Your cool down should last approximately 5 minutes, and your breathing should be back to normal by the end.

- **Walk at a slower pace for 2 minutes**

Stretching your muscles can help to reduce any soreness you may feel over the next few days following exercise. Each stretch should be performed gently, and you should hold for 15-20 seconds.

1. Shoulder / back stretch

- Stand upright.
- Clasp your hands together in front of you with your knuckles outwards.
- Stretch your arms out in front.
- Feel the stretch around your shoulders and back.



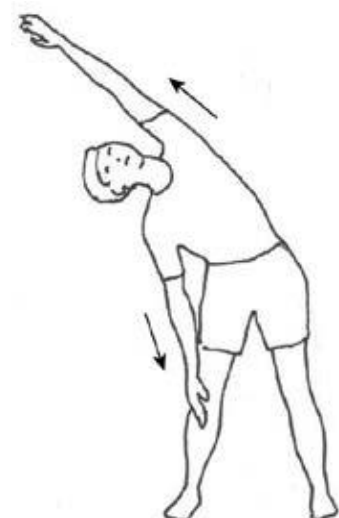
2. Chest stretch

- Stand upright.
- Place your hands on your lower back.
- Squeeze your shoulder blades together, keeping your elbows bent.



3. Side stretch

- Stand with your feet hip-width apart and your arms by your sides.
- Slide your right hand down towards your knee until you feel a stretch on the opposite side.
- Do not lean forwards or backwards.
- Return to standing and repeat on the opposite side.



4. Quadriceps stretch

- Holding a chair / wall for support.
- Bend your right leg up behind you and hold onto either your ankle or back of your trousers.
- Try to take your foot towards your bottom and keep your knees together.
- You should feel a stretch at the front of the thigh.
- Return to normal position and relax.
- Repeat with the other leg.



5. Calf stretch

- Sit forward in a chair with your back straight.
- Stretch one leg up straight in front of you (keeping foot on floor).
- Keep your other leg bent.
- Stretch the toes of your straightened leg towards you.
- Return leg to floor and repeat with other leg.



6. Hamstring stretch

- Sit forward in a chair with your back straight.
- Stretch one leg up straight in front of you with the foot on the floor and relaxed.
- Put both your hands on your other leg, which should be still bent.
- Lean forwards from the hip, supporting your weight on your hands.
- You should feel a stretch at the back of the thigh of the straightened leg.
- Return to normal position and relax.
- Repeat with other leg.



Walking record

Use this table to record the number of minutes you spend walking each day. If you walk twice in one day, for example for 10 minutes and then for five minutes, record it as 10+5.



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| Monday | | |
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| Friday | | |
| Saturday | | |

| | Date | Minutes of continuous walking |
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| Sunday | | |
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| Saturday | | |
| Sunday | | |

Exercise record

Week 1

| Activity | Day: Date: | Day: Date: | Day: Date: | Day: Date: | Day: Date: |
|-----------------|---|---------------|---------------|---------------|---------------|
| Warm-up | | | | | |
| Marching | | | | | |
| Step ups | | | | | |
| Cycling | | | | | |
| Walking | Use the Walking record on pages 13-14 to keep track of how long you spend walking each day. | | | | |
| Bicep curls | | | | | |
| Wall push off | | | | | |
| Shoulder press | | | | | |
| Sit to stand | | | | | |
| Knee extension | | | | | |
| Squats | | | | | |
| Heel raises | | | | | |
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| Cool down | | | | | |
| Physio comments | | | | | |

Exercise record

Week 2

| Activity | Day: Date: | Day: Date: | Day: Date: | Day: Date: | Day: Date: |
|-----------------|---|---------------|---------------|---------------|---------------|
| Warm-up | | | | | |
| Marching | | | | | |
| Step ups | | | | | |
| Cycling | | | | | |
| Walking | Use the Walking record on pages 13-14 to keep track of how long you spend walking each day. | | | | |
| Bicep curls | | | | | |
| Wall push off | | | | | |
| Shoulder press | | | | | |
| Sit to stand | | | | | |
| Knee extension | | | | | |
| Squats | | | | | |
| Heel raises | | | | | |
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| Cool down | | | | | |
| Physio comments | | | | | |

Exercise record

Week 3

| Activity | Day: Date: | Day: Date: | Day: Date: | Day: Date: | Day: Date: |
|-----------------|--|---------------|---------------|---------------|---------------|
| Warm-up | | | | | |
| Marching | | | | | |
| Step ups | | | | | |
| Cycling | | | | | |
| Walking | Use the Walking record on page 13-14 to keep track of how long you spend walking each day. | | | | |
| Bicep curls | | | | | |
| Wall push off | | | | | |
| Shoulder press | | | | | |
| Sit to stand | | | | | |
| Knee extension | | | | | |
| Squats | | | | | |
| Heel raises | | | | | |
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| Cool down | | | | | |
| Physio comments | | | | | |

Exercise record

Week 4

| Activity | Day: Date: | Day: Date: | Day: Date: | Day: Date: | Day: Date: |
|-----------------|--|---------------|---------------|---------------|---------------|
| Warm-up | | | | | |
| Marching | | | | | |
| Step ups | | | | | |
| Cycling | | | | | |
| Walking | Use the Walking record on page 13-14 to keep track of how long you spend walking each day. | | | | |
| Bicep curls | | | | | |
| Wall push off | | | | | |
| Shoulder press | | | | | |
| Sit to stand | | | | | |
| Knee extension | | | | | |
| Squats | | | | | |
| Heel raises | | | | | |
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| Cool down | | | | | |
| Physio comments | | | | | |

Exercise record

Week 5

| Activity | Day: Date: | Day: Date: | Day: Date: | Day: Date: | Day: Date: |
|-----------------|--|---------------|---------------|---------------|---------------|
| Warm-up | | | | | |
| Marching | | | | | |
| Step ups | | | | | |
| Cycling | | | | | |
| Walking | Use the Walking record on page 13-14 to keep track of how long you spend walking each day. | | | | |
| Bicep curls | | | | | |
| Wall push off | | | | | |
| Shoulder press | | | | | |
| Sit to stand | | | | | |
| Knee extension | | | | | |
| Squats | | | | | |
| Heel raises | | | | | |
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| Cool down | | | | | |
| Physio comments | | | | | |

Exercise record

Week 6

| Activity | Day: Date: | Day: Date: | Day: Date: | Day: Date: | Day: Date: |
|-----------------|--|---------------|---------------|---------------|---------------|
| Warm-up | | | | | |
| Marching | | | | | |
| Step ups | | | | | |
| Cycling | | | | | |
| Walking | Use the Walking record on page 13-14 to keep track of how long you spend walking each day. | | | | |
| Bicep curls | | | | | |
| Wall push off | | | | | |
| Shoulder press | | | | | |
| Sit to stand | | | | | |
| Knee extension | | | | | |
| Squats | | | | | |
| Heel raises | | | | | |
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| Cool down | | | | | |
| Physio comments | | | | | |

Contact information

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RbhRespiratory

Useful resources

COVID-19 resources

- British Thoracic Society Guidance on Respiratory Follow Up of Patients with a Clinico-Radiological Diagnosis of COVID-19 Pneumonia: <https://www.brit-thoracic.org.uk/about-us/covid-19-information-for-the-respiratory-community/>
- Chartered Society of Physiotherapy COVID recovery patient information: www.csp.org.uk/recovery
- NHS Lancashire Teaching Hospital Post COVID resource - information and exercise videos for patients: <https://covidpatientsupport.lthtr.nhs.uk/#/>
- WHO Support for rehabilitation Self-management after COVID-19 Related illness: https://www.euro.who.int/_data/assets/pdf_file/0007/447253/Support-for-rehabilitation-self-management-after-COVID-19-related-illness-eng.pdf
- COVID-19: Information pack. Coping after your hospital stay: <https://www.researchgate.net/publication/342241825>
- Recovering from COVID-19: Post Viral Fatigue and Conserving Energy: <https://www.rcot.co.uk/how-manage-post-viral-fatigue-after-covid-19-0>

Psychological resources

- **Psychology Tools:** Living with worry and anxiety amidst global uncertainty – <https://bit.ly/3bqpiAT>
- **Talking Therapies** - <https://www.berkshirehealthcare.nhs.uk/our-services/mental-health-and-wellbeing/talking-therapies-berkshire/>
- **British Lung Foundation:** www.blf.org.uk

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