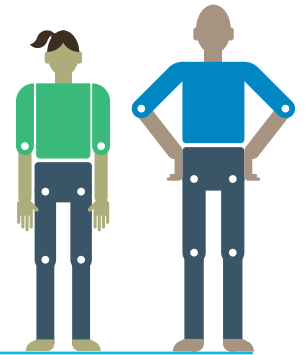




**World Health  
Organization**

REGIONAL OFFICE FOR **Europe**

# Support for Rehabilitation Self-Management after COVID-19- Related Illness



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**Name:**

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**Discharge date:**

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**Hospital where treated:**

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**Healthcare professional providing leaflet:**









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**Name and contact of local healthcare professional:**

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# Who is this leaflet for?

This leaflet provides basic exercises and advice for adults who have been severely unwell and admitted to the hospital with COVID-19. It provides information on the following areas:

	Managing breathlessness	2	<input type="checkbox"/>
	Exercising after leaving hospital	4	<input type="checkbox"/>
	Managing problems with your voice	15	<input type="checkbox"/>
	Managing eating, drinking, and swallowing	16	<input type="checkbox"/>
	Managing problems with attention, memory, and thinking clearly	17	<input type="checkbox"/>
	Managing activities of daily living	18	<input type="checkbox"/>
	Managing stress and problems with mood	19	<input type="checkbox"/>
	When to contact a healthcare professional	21	<input type="checkbox"/>

**Your healthcare professional may indicate the exercises that are appropriate for you from this leaflet. The exercises and advice in this leaflet should not replace any individualised exercise programme or advice you may have been given by healthcare professionals when you left hospital.**

Your family and friends can help support you as you recover, and it may be helpful to share this leaflet with them.



## Managing breathlessness

It is common to experience breathlessness after being in hospital. Losing strength and fitness while you were unwell, and the illness itself, can mean you become breathless easily. Feeling breathless can make you feel anxious, which can make breathlessness worse. Staying calm and learning the best way to manage your breathlessness will help.

Your breathlessness should improve as you slowly increase your activities and exercise, but in the meantime, the positions and techniques below can also help to manage it.



**If you start to feel severely short of breath and it does not get better with these positions or techniques, contact your healthcare professional.**

## Positions to ease breathlessness

These are some positions that may reduce your breathlessness. Try each of them to see which one/s help you. You can also try the breathing techniques described below while in any of these positions to help ease your breathing.



### 1. High side lying

Lying on your side propped up by pillows, supporting your head and neck, with your knees slightly bent.



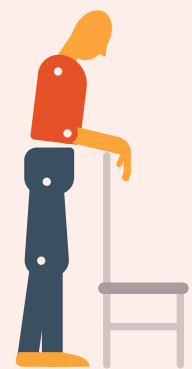
### 2. Forward lean sitting

Sitting at a table, lean forwards from the waist with your head and neck resting on the pillow, and your arms resting on the table. You can also try this without the pillows.



### 3. Forward lean sitting (no table in front)

Sitting on a chair, lean forwards to rest your arms on your lap or the armrests of the chair.



### 4. Forward lean standing

While standing, lean forwards onto a windowsill or other stable surface.



### 5. Standing with back support

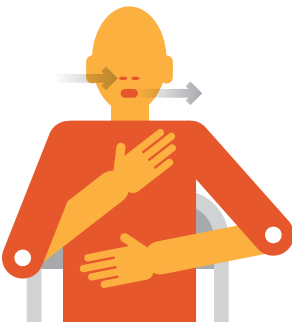
Lean with your back against a wall and your hands by your side. Have your feet about a foot away from the wall and slightly apart.

## Breathing techniques

### Controlled breathing

This technique will help you to relax and control your breathing:

- Sit in a comfortable and supported position
- Put one hand on your chest and the other on your stomach
- Only if it helps you to relax, close your eyes (otherwise leave them open) and focus on your breathing
- Slowly breathe in through your nose (or mouth if you are unable to do this) and then out through your mouth
- As you breathe, you will feel the hand on your stomach rise more than the hand on your chest
- Try to use as little effort as possible and make your breaths slow, relaxed, and smooth



### Paced breathing

This is useful to practice when carrying out activities that might take more effort or make you breathless, like climbing the stairs or walking up a hill. It is important to remember that there is no need to rush.

- Think about breaking the activity down into smaller parts to make it easier to carry out without getting so tired or breathless at the end
- Breathe in before you make the 'effort' of the activity, such as before you climb up a step
- Breathe out while making the effort, such as climbing up a step
- You may find it helpful to breathe in through your nose and out through your mouth



## Exercising after leaving hospital

Exercise is an important part of recovery after a severe COVID-19 illness. Exercise can help to:

- Improve fitness
- Reduce breathlessness
- Increase muscle strength
- Improve balance and coordination
- Improve your thinking
- Reduce stress and improve mood
- Increase confidence
- Improve your energy

Find a way to stay motivated with your exercises. Keeping track of your progress with a diary or exercise 'app' on your phone or watch may help.

### Exercising safely

Exercising safely is important, even if you were independent with your mobility (walking) and other exercise before becoming sick. It is particularly important if you:

- Had difficulty with your mobility before going into hospital
- Had any falls before going into hospital or during your time in hospital
- Have any other health condition or injury that may put your health at risk with exercising
- Have been discharged from hospital on medically prescribed oxygen

In these cases, you may need to exercise with someone else for safety. Anyone on additional oxygen **MUST** discuss their use of oxygen during exercise with a healthcare professional before starting.

#### These simple rules will help you exercise safely:

- Always warm-up before exercising, 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



**If you feel any of the following symptoms, do not exercise, or stop exercising, and contact your healthcare professional:**

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

Remember to obey physical distancing rules when exercising outdoors, if these exist where you live.

### **Exercising at the right level**

To work out whether you are exercising at the right level, think about speaking a sentence:

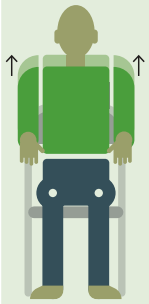
- If you can speak the whole sentence without stopping and are not feeling breathless, then you can exercise harder
- If you cannot speak at all, or can only say a word at a time and are severely breathless, then you are exercising too hard
- If you can speak a sentence, pausing once or twice to catch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

**Remember that it is normal to feel breathless when you exercise, and it is not harmful or dangerous. Gradually building your fitness can help you become less breathless. In order to improve your fitness, you should feel moderately to almost severely breathless when you exercise.**

If you do feel too breathless to speak, you should slow down or stop to rest until your breathing feels more controlled. You may find the positions to relieve breathlessness on page 3 helpful.

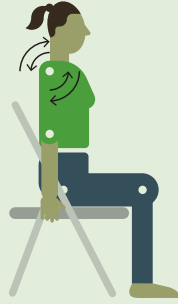
## Warm-up exercises

Warming up prepares your body for exercise to prevent injury. Your warm-up should last around 5 minutes, and at the end you should feel slightly breathless. Warm-up exercises can be done in sitting or in standing. If you do your warm-up in standing, hold on to a stable surface for support if needed. Repeat each movement 2-4 times.



### 1. Shoulder shrugs

Slowly lift your shoulders up towards your ears and then down again



### 2. Shoulder circles

Keeping your arms relaxed by your side or resting on your lap, slowly move your shoulders round in a circle forwards, and then backwards



### 3. Side bends

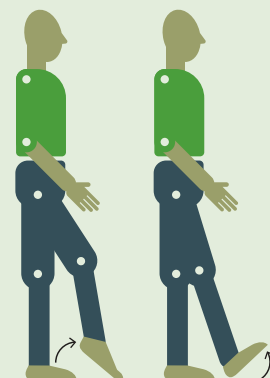
Start with your body straight and your arms by your sides

Slide one arm, then the other, a short way towards the floor, bending sideways



### 4. Knee lifts

Lift your knees up and down slowly, no higher than your hip, one at a time



### 5. Ankle taps

Firstly, using one foot, tap your toes and then your heel on the ground in front of you; repeat with the other foot



### 6. Ankle circles

Using one foot, draw circles with your toes; repeat with the other foot



## Fitness exercises

You should aim to do fitness exercise for 20-30 minutes, 5 days each week.

Some examples of different types of fitness exercises are described below, but any activity that makes you feel moderately to almost severely breathless can be counted towards your fitness exercise. Time your fitness exercise and gradually build up the amount of time you can manage. This may be in small increases such as an additional 30 seconds or 1 minute of activity. It may take a while to return to the level of activity you were normally able to do before you became unwell.

### Examples of fitness exercises

#### 7. Marching on the spot

- If needed, hold onto a stable chair or surface for support, and have a chair nearby to rest

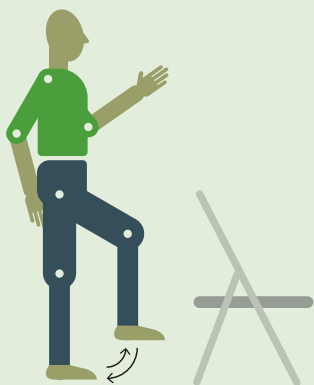
- Lift your knees one at a time

##### Progressing this exercise:

- Increase the height you lift your legs, aiming to reach hip height if possible

##### When you might choose this exercise:

- If you cannot go outside to walk
- If you are not able to walk very far before needing to sit down



#### 8. Step-ups

- Use the bottom step of your flight of stairs

- If needed, hold on to the handrail for support, and have a chair nearby to rest

- Step up and down, changing the leg you start with every 10 steps

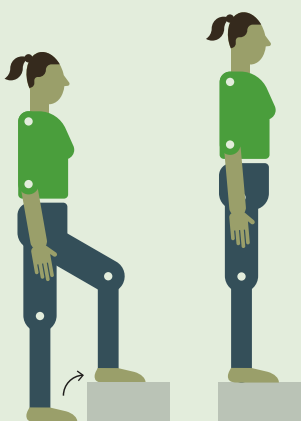
##### Progressing this exercise:

- Increase the height of the step, or speed of stepping up and down

- If your balance is good enough to do this exercise without holding on, then you can carry weights as you step up and down

##### When you might choose this exercise:

- If you cannot go outside
- If you are not able to walk very far before needing to sit down



## 9. Walking

- Use a walking frame, crutches, or stick if needed
- Choose a route that is relatively flat

### Progressing this exercise:

- Increasing the speed or distance you walk, or if accessible, include walking uphill in your route

### When you might choose this exercise:

- If you can get outdoors to exercise

## 10. Jogging or cycling

- Only do jogging or cycling if it is medically safe for you

### When you might choose this exercise:

- If walking is not making you out of breath enough
- If you could jog or cycle before you became unwell

## Strengthening exercises

Strengthening exercises will help improve muscles that have become weaker as a result of your illness. You should aim to do three sessions of strengthening exercise each week. Strengthening exercises will not make you feel breathless in the same way as fitness exercises. Instead, your muscles will feel like they have worked hard.

You should aim to complete up to 3 sets of 10 repetitions of each exercise, taking a short rest in between each set. Do not worry if you find these exercises hard. If you do, start with a smaller number of repetitions in each set and build up to achieving sets of 10. As you get better with the exercises, use heavier weights to make your muscles work harder. You can use tins of food or bottles of water as weights.

Some strengthening exercises for your arms and legs are described below, which can be done in sitting or standing. These can be done in any order. Keep a good posture, with your back straight and your tummy tucked in, and complete the exercises slowly.

**Remember to breathe in as you prepare to do the hardest part of the exercise and breathe out as you make the effort.**

## Examples of strengthening exercises for your ARMS

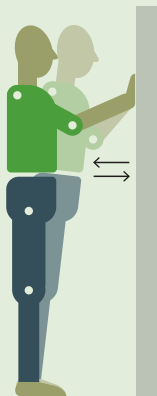


### 1. Bicep curl

- With your arms by your side, hold a weight in each hand with your palms facing forwards
- Keep the top part of your arm stationary. Gently lift the lower part of both arms (bending at the elbows), bringing the weights up
- You can do this exercise sitting or standing

#### Progressing this exercise:

- Increase the weight you use while doing this exercise

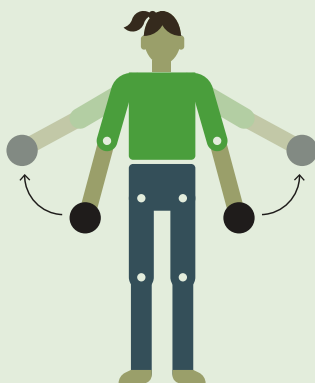


### 2. Wall push off

- Place your hands flat against a wall at shoulder height, with fingers facing upwards, and your feet about a foot away from the wall
- Keeping your body straight at all times, slowly lower your body towards the wall by bending your elbows, then gently push away from the wall again, until your arms are straight

#### Progressing this exercise:

- Stand further away from the wall



### 3. Arm raises to the side

- Hold a weight in each hand, with your arms by your sides, and your palms facing inwards
- Raise both arms out to the side, up to your shoulder level (but not higher), and slowly lower back down
- You can do this exercise sitting or standing

#### Progressing this exercise:

- Increase the height that you lift your arms, but no higher than your shoulder level
- Increase the weight you use while doing the exercise

## Examples of strengthening exercises for your LEGS



### 1. Sit to stand

- Sit with your feet hip-width apart. With your arms by your side or crossed over your chest, slowly stand up, hold the position for the count of 3, and slowly sit back down onto the chair. Keep your feet on the floor throughout
- If you cannot stand up from the chair without using your arms, try a higher chair. If this is still too hard at first, you may push with your arms

#### Progressing this exercise:

- Make the movement as slow as possible
- Perform the exercise using a lower chair
- Hold a weight close to your chest whilst doing the exercise

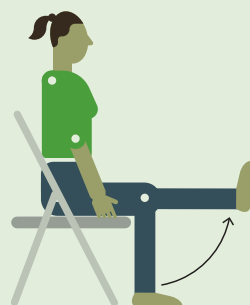


### 2. Knee straightening

- Sit in a chair with your feet together. Straighten one knee and hold your leg out straight for a moment, then slowly lower it. Repeat with your other leg.

#### Progressing this exercise:

- Increase the time holding your leg out straight to a count of 3
- Perform the exercise more slowly

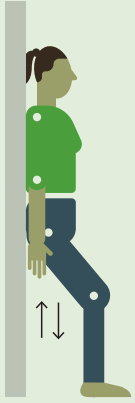


### 3. Squats

- Stand with your back against a wall or other stable surface and your feet slightly apart. Move your feet about a foot away from the wall. Alternatively rest your hands on the back of a stable chair
- Keeping your back against the wall, or holding on to the chair, slowly bend your knees a short distance; your back will slide down the wall. Keep your hips higher than your knees
- Pause for a moment before slowly straightening your knees again

#### Progressing this exercise:

- Increase the distance you bend your knees (remember to keep your hips higher than your knees)
- Increase the time you pause to a count of 3 before straightening your knees

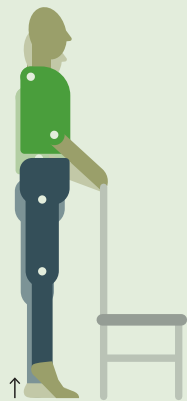


### 4. Heel raises

- Rest your hands on a stable surface to support your balance, but do not lean on them
- Slowly rise up on to your toes, and slowly lower back down again

#### Progressing this exercise:

- Stand on your toes for a count of 3
- Stand on one leg at a time



## Cool down exercises

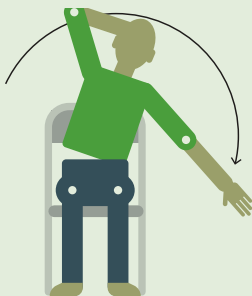
Cool down exercises allow your body to return to normal before stopping exercise. Your cool down should last approximately 5 minutes, and your breathing should be back to normal by the end. Try working through all these suggestions, but if you cannot manage all the exercises or stretches, do the ones that you can.

### 1. Walking at a slower pace or gently marching on the spot, for approximately 2 minutes

### 2. Repeat the warm-up exercises to move your joints; these can be done in sitting or standing

### 3. Muscle stretches

Stretching your muscles can help to reduce any soreness you may feel over the one to two days following exercise. You can do these stretches in sitting or in standing. Each stretch should be performed gently, and you should hold each one for 15-20 seconds.



#### Side:

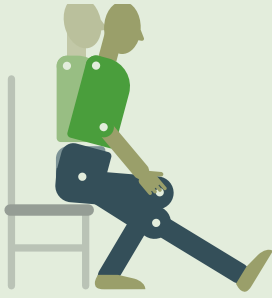
Reach your right arm up to the ceiling and then lean over to the left slightly; you should feel a stretch along the right side of your body. Return to the starting position and repeat on the opposite side.



#### Shoulder:

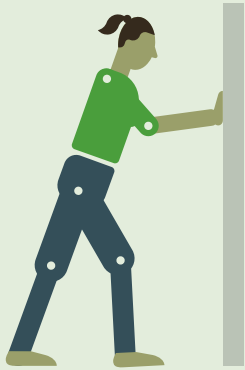
Put your arm out in front of you. Keeping your arm straight, bring it across your body at shoulder height, using your other hand to squeeze your arm to your chest so you feel a stretch around your shoulder. Return to the starting position, and repeat on the opposite side.

### Back of thigh (Hamstring):



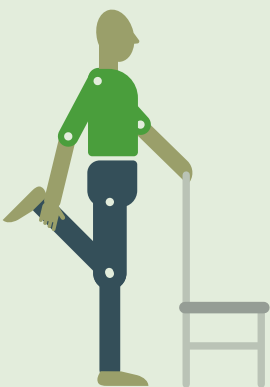
Sit on the edge of a chair with your back straight and feet flat on the floor. Place your leg out straight in front of you with your heel resting on the ground. Place your hands on your other thigh as support. Sitting as tall as you can, bend slightly forwards at your hips until you can feel a slight stretch down the back of the leg that is stretched out. Return to the starting position, and repeat on the opposite side.

### Lower leg (Calf):



Stand with your feet apart and leaning forwards onto a wall or something sturdy for support. Keep your body upright and step one leg behind you. With both feet facing forwards, bend your front knee, keeping your back leg straight and your heel on the floor. You should feel a stretch in the back of your lower leg. Return to the starting position and repeat on the opposite side.

### Front of thigh (Quads):



Stand up and hold onto something stable for support. Bend one leg up behind you, and if you can reach it, use the hand on the same side to hold your ankle or the back of your leg. Take your foot up towards your bottom until you feel a stretch along the front of your thigh. Keep your knees close together and your back straight. Return to the starting position and repeat on the opposite side.

You can also do this stretch sitting down on a stable chair: sit near the front of the chair, off to one side (so that you are only sitting on about half of the chair). Slide the leg closest to the edge off the chair and position it so that your knee is pointing down in line with your hip and your weight is through your toes. You should feel the stretch along the front of your thigh. Repeat on the opposite side.

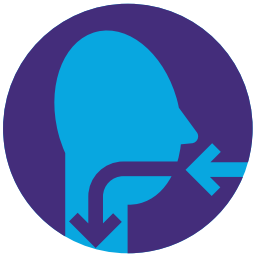


## Managing problems with your voice

Sometime people may have difficulties with their voice after being ventilated (having a breathing tube). If your voice is raspy or weak, it is important to:

- **Keep talking when it is comfortable.** You will need to keep using your voice to make progress. If you get tired while speaking, take breaks and let your friends and family members know that you need to pause and rest your voice during conversations.
- **Do not strain your voice.** Do not whisper as this can strain your vocal cords. Try not to raise your voice or shout. If you need to get someone's attention, try making a noise with an object.
- **Take rests.** If you run out of breath while talking, be careful not to work harder. Stop and sit calmly, while focusing on your breathing. Try the breathing strategies described earlier in this leaflet. Do these until you feel ready to speak again.
- **Try humming to yourself** to practice using your voice, while being careful not to strain.
- **Use other ways of communicating,** such as writing, texting, or using gestures, if talking is difficult or uncomfortable.
- **Sip water throughout the day** to help keep your voice working.





## Managing eating, drinking, and swallowing

If you were ventilated with a breathing tube while you were in hospital, you may notice you have some difficulty with swallowing food and drink. This is because the muscles that help with swallowing may have become weak. Eating well and drinking water/juice are important to your recovery.

**Paying attention to swallowing is important to avoid choking and lung infections. This can happen if food/drink goes the wrong way and gets into your lungs when you swallow.**

If you experience difficulty swallowing, these techniques may help:

- **Sit upright whenever you eat or drink.** Never eat or drink while lying down.
- **Remain upright** (seated, standing, walking) for at least 30 minutes after meals.
- **Try foods of different consistencies** (thick and thin) to see if some foods are easier to swallow than others. It may help to choose soft, smooth and/or moist foods at first, or to chop up solid foods into very small pieces.
- **Concentrate when you eat or drink.** Try to have your meals in a quiet place.
- **Take your time when eating.** Take small bites of food, take single, small sips of drink between mouthfuls of food, and chew well before you swallow.
- **Make sure your mouth is clear** before taking another bite or sip. If you need to, swallow again.
- **Eat smaller meals throughout the day** if you get tired eating full meals.
- **If you cough or choke**, or your breathing becomes difficult when you eat and drink, take a break to recover.

Eating healthily is very important to your recovery, especially when you are weak or have been on a ventilator. Brushing your teeth after every meal and staying hydrated will help to make sure your mouth stays healthy.



**If eating and drinking continue to be difficult, contact your healthcare professional.**



## Managing problems with attention, memory, and thinking clearly

It is very common for people who have been severely unwell, especially those who had a breathing tube in hospital, to experience new difficulties with attention, remembering things, and thinking clearly. These difficulties may go away within weeks or months, but for some people, they can last longer-term.

**It is important for you and your family to recognise if you are experiencing these difficulties, as they can have an impact on your relationships, daily activities, and your return to work or education.**

If you experience these difficulties, these strategies may help:

- **Physical exercise** can help your brain recover. While this may be difficult if you are experiencing weakness, breathlessness, or fatigue, try gradually introducing gentle exercise into your daily routine. The fitness and strengthening exercises described earlier in this leaflet are a good place to start.
- **Brain exercises**, such as new hobbies or activities, puzzles, word and number games, memory exercises, and reading may help. Start with brain exercises that challenge you but are achievable and increase the difficulty as you are able. This is important for keeping you motivated.
- **Prompt yourself** with lists, notes, and alerts, such as phone alarms, that can remind you of things you need to do.
- **Break down activities** into individual steps to avoid feeling overwhelmed.

Some of the strategies listed below for managing activities of daily living may also help you manage the impact of problems with attention, memory, and thinking clearly, such as adjusting your expectations and letting others help you.



## Managing activities of daily living

It is important to become active again when you are recovering, but this can be hard if you feel very tired, breathless, and weak, which is normal after being severely unwell. Everything we do, including washing, dressing, and preparing meals, as well as work and play, takes energy.

**After a severe illness, you may not have the same energy you used to, and some tasks may take more effort than before.**

If you feel like this, the following strategies may be helpful:

- **Adjust your expectations** for what you can do in a day. Set realistic goals based on how you are feeling. When you are very tired, breathless, or weak, even getting out of bed, washing, and dressing can be achievements.
- **Save your energy** by doing tasks sitting down when you can, such as when showering, dressing, or preparing food. Try not to do tasks that need you to stand, bend down, reach high, or squat for a long time.
- **Pace yourself** and try to do light tasks between heavier ones. You may need to leave yourself time during the day to rest.
- **Let others help you** with tasks that you may be struggling with. Things like caring for children, shopping, preparing meals, or driving may be difficult. Accept offers of support and let people know what they can help you with. Services that can help with activities, such as shopping or cooking, may also be useful while you are still recovering.
- **Ease back into activities.** Do not try to take up full activities until you feel ready. This may mean talking to an employer about a gradual return to work, taking on a role that is easier for you to manage, getting support for childcare, and returning to hobbies slowly.



## Managing stress, anxiety, or depression

Being extremely unwell in hospital can be a highly stressful experience. This can have an understandably difficult impact on your mood. It is not unusual to experience feelings of stress, anxiety (worry, fear) or depression (low mood, sadness). Memories or dreams of being in the hospital may come to you even if you do not want them to. You may notice difficult thoughts or feelings related to your survival. Your mood may be further affected by frustrations about not yet being able to return to your daily activities the way you would like to.

In turn, these difficult feelings can affect your ability to engage with daily activities- particularly if you are less motivated because of the difference between your expectations and what is achievable.

**Managing stress and feelings of anxiety and depression are therefore an important part of your overall recovery.**

There are some simple things you can do.

### Take care of your basic needs

- **Get enough quality sleep.** Your sleep was likely disrupted during hospital. Feeling stressed can also affect your sleep. Try to return to a regular sleeping and waking time, using alarms to remind you. You or your family/carers can ensure that your environment is free from things that might disturb you, such as too much light or noise. Minimizing nicotine (such as from smoking), caffeine, and alcohol and adding relaxation strategies will help you with falling and staying asleep.
- **Eating sufficiently and healthily** is important for your overall wellbeing. If you struggle with eating or swallowing, follow the advice provided in this leaflet or by a healthcare professional. Family/carers can try to ensure that sufficient food is available to you.
- **Be physically active** as this reduces stress and can reduce the chance of depression. Take small steps in gradually and safely increasing your physical activity.

## Self-care

- **Staying socially connected** is important for your mental wellbeing. Talking with others can help to reduce the stress and may also help you in finding solutions for challenges in your recovery journey. If you are living alone, staying in contact with friends or family on the telephone or online can help you to feel less alone. Because you may not feel like being socially connected when your mood is low, let family and friends know that they can help by reaching out to you during your recovery.
- **Do relaxing activities** that do not make you too tired, like listening to music, reading, or spiritual practices. Slow breathing also helps to reduce stress and is another example of a relaxation strategy. These should be done gradually if it is too difficult at first. Follow the “Controlled Breathing Exercises” described earlier in this leaflet to learn how to do slow breathing.
- **Gradually increase your involvement in your daily activities or hobbies** to the best of your ability, as this helps to improve your mood.

**If you were previously receiving services to support your mental health, talk to your provider to ensure that these continue. Family/carers can also play an important role by supporting people who are physically recovering after being ill but have declining mental health. Family/carers may help them access the support they need, when they need it.**



## When to contact a healthcare professional

The impact of being hospitalized and being seriously unwell can be different for everyone. It is important to contact a health professional, such as a general practitioner, rehabilitation professional, or medical specialist, if:

- There is a change in how breathless you are at rest that does not get better by using the breathing control techniques described on page 4.
- You become very short of breath with minimal activity and this does not improve with any of the positions for easing breathlessness described on page 3.
- You experience any of the symptoms described on page 6 before or during exercise.
- Your attention, memory, thinking, or tiredness are not improving, making it very difficult for you to do your daily activities, or are stopping you from going back to work or other roles.
- Your mood worsens, particularly if it lasts for several weeks.

### Local social and rehabilitation services for support:

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#### Names and contact details or services

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#### Additional resources available

“Doing What Matters in Times of Stress”

<https://www.who.int/publications/i/item/9789240003927>.

“A guide to preventing and addressing social stigma associated with COVID-19”

<https://www.who.int/publications/m/item/a-guide-to-preventing-and-addressing-social-stigma-associated-with-covid-19>

## The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

### Member States

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