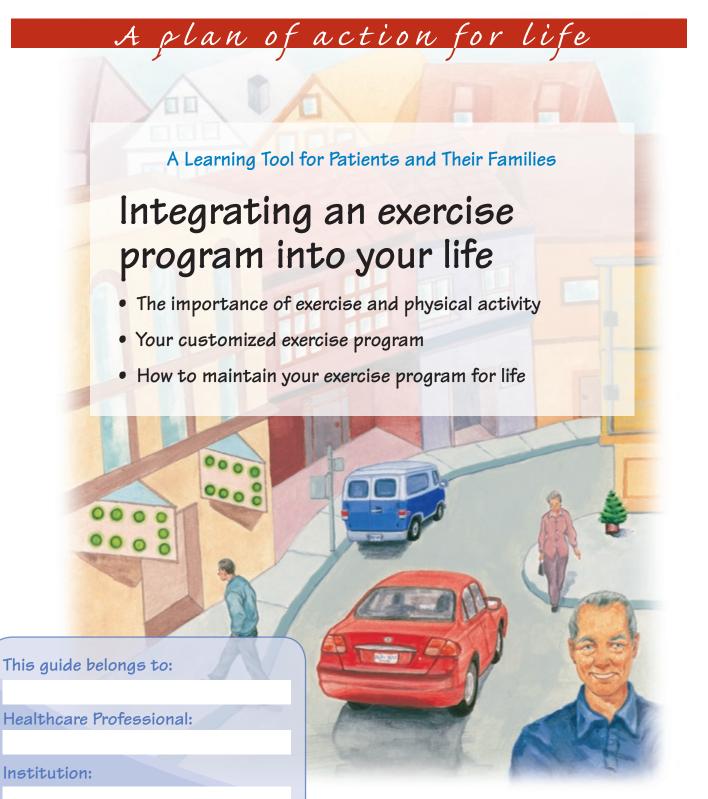


Chronic Obstructive Pulmonary Disease



## The skills you need to manage your COPD

COPD is a disease that can seriously affect every part of your life. Simple activities you once took for granted, such as taking a walk or getting dressed, can become major challenges. Flare-ups, or worsening symptoms – the main cause of hospitalization in people with COPD – can further affect your quality of life. Fortunately, there is a lot that you can do to overcome and prevent these limitations, and improve your well-being. This is why we have created this series of workbooks on COPD self-management.

#### How can this program help me with self-management of the disease?

This is an educational program in which you learn skills to manage your disease and adopt a new and healthy lifestyle. This series of workbooks is part of the "Living well with COPD" program, based on real-life experiences.

Medical experts and patients with COPD – people just like you – worked together to update this program which you can adapt to your own situation. National<sup>1</sup> and international<sup>2,3</sup> guidelines agree that patient education and self-management are valuable for people with COPD.

We also tested this educational program as part of a clinical trial. The results are very encouraging. Patients who used these workbooks in collaboration with their healthcare professional, "case manager" or resource person and physician had fewer hospitalizations and fewer emergency room visits. Their overall health also improved, enabling them to do more of the activities they enjoyed, and better cope with their disease.<sup>45</sup>

This is your guide. Use it to write down your questions or concerns. Share it with people close to you so that they can understand what you are going through. Discuss whatever thoughts and feelings you have with your case manager or resource person and your physician.

Best of luck in your program!

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ionie Nauls

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### Welcome to "Integrating an exercise program into your life" of the learning series "Living Well with COPD"

In order to live well with COPD, it is important to remain physically active and to integrate an exercise program into your regular activities.

#### This module will teach you:

- the importance of exercise
- when, where and how to exercise
- to recognize your limits
- the elements of your customized exercise program
- how to maintain your exercise program over the long term

This module is your guide to help you start and maintain your exercise program. Your program will be carried out under the supervision of a healthcare professional, and often within the context of a pulmonary rehabilitation program. This healthcare professional will become your resource person for your exercise program and its longterm maintenance. Show this module to a family member and use it to write down any questions or concerns you may have. Share your thoughts and feelings with your resource person at the health centre. **This is an important part of your plan of action for life.** 

## The benefits of exercise

#### Why is exercise beneficial to you?

Along with your medication, exercise and physical activity play an essential role in the treatment of your COPD.

#### Regular exercise will help you to:

- better control your shortness of breath
- increase your strength and your tolerance to effort
- better control your anxiety
- increase your confidence in your own abilities
- improve your quality of life

## You will thus be able to accomplish more, use your energy more efficiently and be less breathless.

Physical activity also contributes to reducing risks related to the following health problems: cardiovascular disease, obesity, hypertension, osteoporosis, stroke, colon cancer, premature death and type 2 diabetes.

## In your opinion, how can a regular exercise program help you improve your health?

## We have an exercise program to offer you!

Your healthcare professional will adapt this program to your medical condition.

#### Are you ready to start?

If you answered **yes**: Bravo! It is a very good decision.

## What are your expectations and objectives with respect to your exercise program?

Perhaps you or a family member still have some questions or concerns? If so, write them down so that you can discuss them with your healthcare professional.

# It is important to know when, where and how to exercise

#### When?

Set aside a convenient time of day.

Find some time during the day that belongs to you, when you will not be bothered. Make this your priority!

# What times during the day or week can you dedicate exclusively to your exercise program?

#### Wait at least one hour after meals.

You may not feel like exercising on a full stomach.

## When, where and how to exercise

#### Where?

Choose a pleasant environment and adapt your program to the season.

- Remember to avoid environmental factors that could aggravate your symptoms (extreme heat, severe cold, high humidity, smog and strong wind).
- If you enjoy outdoor activities, **plan one for each season**. For example, crosscountry skiing in winter, gardening in the spring, cycling in summer and hiking in the fall.
- Also consider indoor activities (gym, stationary bicycle, swimming) that you can do regardless of climatic conditions.
- Find out about exercise programs offered in your neighbourhood. Base your choice on your preference, the cost, transportation and expected effectiveness.
- Talk to your friends and neighbours to find out what types of exercises they do and **ask if you can join them.**

# Write down some examples of places and activities that are convenient for you:

Spring:	
Summer:	
Fall:	
Winter:	

## When, where and how to exercise

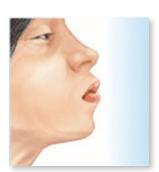
#### How?

- Choose a type of exercise that you enjoy. Many types of activities can be beneficial to your health.
- Take your medication regularly, as prescribed. Taking your medication regularly helps you control your symptoms during activities requiring an effort. In some situations, taking your rescue medication (bronchodilator) before exercising can help you control your shortness of breath even more. Discuss this with your doctor.
- Wear comfortable clothes and footwear that are suitable for the room temperature, and will allow freedom of movement.
- Use your breathing techniques. By using the pursed-lip breathing technique during exercise, you will be less breathless. Speak to your healthcare professional or to your doctor if you are not familiar with this technique.

Pursed-lip breathing technique



**1.** Inhale slowly through your nose.



**2.** Purse your lips as you would to whistle.



**3.** Exhale slowly while keeping your lips pursed.

Note: Do not force your lungs to empty.

# How do you know if the intensity of your effort is adequate?

Use the **scale of perceived exertion** shown below to evaluate your level of breathlessness between O-1O. Then, using the same scale, evaluate the intensity of your muscular fatigue.

Scale of perceived exertion			
Intensity of the sensation (breathlessness, fatigue)			
	0	None at all	
	1	Very light	
	2	Light	
	3	Moderate	
	4	Somewhat severe	
Ě	5	Severe	
A Contraction	6	More severe	
	7	Very severe	
(ar)	8		
	9	Very, very severe	
	10	Maximal	

Adapted from the Borg scale<sup>6</sup>

Start at a comfortable pace. It is normal to experience slight breathlessness. It is recommended to perform your exercises at a level of breathlessness and fatigue between **4 and 6 on a scale of 10**. For example, at this level, you should be able to respond to somebody, but not to carry on a conversation.

#### Important:

**Do not go over level 6 of the scale.** If you go over level 6, the intensity of your effort is too high.

## Learn to recognize your limits

## Which normal and abnormal symptoms can occur during exercise?

#### Normal symptoms

- Light to moderate breathlessness
- Sweating
- Fatigue or burning in your legs
- Light muscular or joint pain

If you do not experience any of these symptoms, the intensity of your workout may be insufficient.

#### Abnormal symptoms

- Chest pain
- Intense joint pain
- Dizziness or vertigo
- Heart palpitations
- Severe and prolonged breathing difficulties
- Headaches

If you experience one or more of these symptoms, stop your exercise program temporarily and contact your doctor and/or your healthcare professional.

## Other chronic diseases

If you suffer from other chronic disorders such as diabetes, arthritis, osteoporosis and/or heart disease, you can still take part in an exercise program.

- You should know that exercise is also an integral part of the treatment of these diseases.
- However, some activities may need to be adapted so that they can be beneficial without posing any health risks.

If you need to, you can consult your healthcare professional to identify which exercises are appropriate for you.

#### Could you list your health problems other than COPD?

### Here is your exercise program

Your ability to exercise was evaluated so that your doctor or your healthcare professional can recommend a safe and efficient program. Your resource person will teach you how to carry out your exercise program.

#### Your exercise program includes the following types of exercises:

- warm-up
- cardiovascular
- muscle strengthening
- flexibility and balance

## Warm-up exercises

Always start your training session by warming up for a few minutes. All you need to do is to start your session with a low-intensity cardiovascular exercise such as walking on the spot or an exercise that entails little or no exertion.

## Why do you think it is important to warm up before starting more intense exercises?

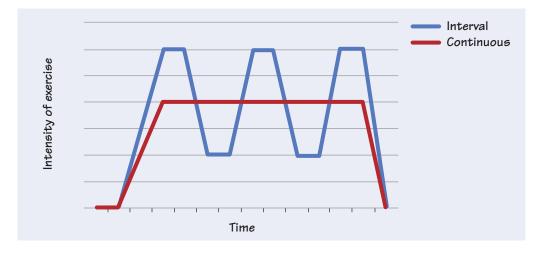
Give some examples of warm-up exercises that you could do:

## Cardiovascular exercises

Cardiovascular exercises are very important because they help you build stamina. This means that over time, you will feel less breathless during an exercise and you will be able to do it longer.

#### Here are some general guidelines...

- It is recommended to do 30 minutes of cardiovascular exercises daily. You may divide up the time as you wish; three periods of 10 minutes are just as beneficial as one period of 30 minutes.
- Use the scale of perceived exertion to control the intensity of your workout. Maintain an intensity of 4 to 6.
- Gradually increase the duration of your cardiovascular exercises up to 30 minutes. Then, increase the intensity of the exercises.
- You should do your cardiovascular exercises at least 3 to 5 times per week. However, remember to remain physically active every day.
- Use the pursed-lip breathing technique.
- You can exercise continuously, keeping the same level of intensity throughout the workout. Or you can exercise at intervals, alternating periods of high intensity with periods of lower intensity.



# Here are some cardiovascular exercises to choose from

In this module, we suggest three types of cardiovascular exercises:



There are several other cardiovascular exercises that can be beneficial (aqua fitness, dance, etc.). Speak to your healthcare professional if you are interested.

## Stationary bicycle

#### Advantages of the stationary bicycle

- It is accessible and affordable.
- It allows you to do something else while exercising such as listening to music, watching television.
- You can use it, rain or shine, without the risk of falling.

#### Before buying a stationary bicycle, make sure it is right for you

- The bike is stable when you pedal (not wobbly).
- The intensity (or resistance level) is adjustable.
- The height of the seat and handlebars is adjustable.
- The seat is comfortable (try it before buying).

Follow the general guidelines outlined above. Maintain an intensity of 4 to 6 using the scale of perceived exertion.

## Walking

#### Advantages

- It is an efficient and enjoyable exercise, recognized for its significant benefits to your everyday life.
- You have many opportunities to do it each day (e.g. walking to the convenience store instead of driving).
- It can be done with friends or family members.
- If the weather is too cold, too hot, or too humid to walk outside, you can walk around inside a mall (note: it would be best to avoid peak periods).

Follow the general guidelines outlined above. Maintain an intensity of 4 to 6 using the scale of perceived exertion.

The use of a **pedometer** is recommended as a motivation tool and for self-evaluation.

#### How to use a pedometer

The pedometer is a movement detector that counts every step you take. It should be clipped to your belt or waistband, midway between your navel and your hip (in line with your knee). **This device will encourage you to gradually increase the number of steps you take per day.** Using it will allow you to challenge yourself and to monitor your progress.



#### 3-step pedometer technique

- In order to determine the average number of steps you take every day, note the total number of steps you take over 3 consecutive days (making sure to include 1 weekend day). Divide this total by three to get your daily average.
- 2 Your first objective will be to add 1000 steps to your daily average. Maintain this level over a one-month period.
- If you reach your goal, add another 1000 steps and maintain this for one month. Keep increasing your objective in this way until you have reached 5000 to 6000 steps per day. If your condition allows it, you can keep increasing up to 10,000 steps per day.

**Note:** There are many different types of pedometers on the market. Research them before buying one.

## Stairs

#### Advantages

- They are easily accessible.
- They are an excellent way to strengthen the muscles in your legs.

#### What you should know...

- This exercise is more demanding than the others; take your time and go at a comfortable pace.
- To avoid falling, keep one hand on the handrail without pulling on it to help you climb.

Follow the general guidelines outlined above. Maintain an intensity of 4 to 6 using the scale of perceived exertion.

# When climbing stairs, using the pursed-lip breathing technique is even more important:

#### If you are extremely breathless

- Inhale at rest.
- Go up one step while exhaling, then stop to inhale.
- Repeat this method at each step.

#### If you are able to go up a few steps

- Inhale at rest.
- Go up two or three steps while exhaling, then stop to inhale.

#### If you are able to go up an entire flight of stairs

- Inhale at rest.
- Go up two or three steps while exhaling.
- Go up two steps while inhaling.
- Go up three or four steps while exhaling, and so on.

## Muscle strengthening exercises

You must keep your muscles toned because you need them for your daily activities. Muscles are essential for all daily activities: walking, going up the stairs, carrying bags, getting out of bed. In other words, muscles enable you to remain independent.

Muscle strengthening exercises include activities which maintain or increase your muscular strength. They are an essential part of a complete fitness program.

## Basic rules for a good muscle workout

- For certain exercises, **your body weight is sufficient** while for others, it would be better to use free weights or elastic bands.
- **Perform movements slowly**. For example, take 3 to 5 seconds to bend and stretch your arms.
- To determine a good workload, do 12 repetitions. The first repetitions should be done quite easily. The last ones (11th and 12th) may be somewhat difficult.
- When you are able to do 12 repetitions easily, add another set of 12.
- Remember to use the pursed-lip breathing technique. **Try to perform each movement** (following your breathing rhythm) **while exhaling**.
- It is very important not to hold your breath.
- You can safely do these exercises on a daily basis. We recommend that you do your muscle workout at least 3 times per week.

## Upper body

1

2a

26



#### Biceps

**Position:** Sitting on a chair with a weight in each hand. **Movement:** Bend and extend your arms. Repeat.

**Note:** It is important to keep your elbows against your body during the exercise.

#### Triceps

**Position:** Standing, leaning forward against a table or a chair with a weight in one hand. **Movement:** Extend your arm backwards. Repeat.

**Note:** It is important to keep your elbows against your body during the exercise.

**Position:** Standing with your back straight. **Movement:** Hold each end of an elastic band against your back. Without moving your lower hand, stretch your other arm over your head as far as you can while holding the elastic. Repeat.

## Upper body

		1000010
За		<b>Position</b> at chest <b>Moveme</b> towards
3Ь		<b>Position</b> wall at e your elbe Push ag position
Зс	i and the second	<b>Position</b> on your bend you the grou to initia

#### Pectorals

**Position:** Lying on your back with your hands at chest level and a weight in each hand. **Movement:** Extend your arms straight up towards the ceiling. Repeat.

**Position:** Standing with your hands against a wall at shoulder level. **Movement:** Slowly bend your elbows while keeping your body straight. Push against the wall to return to initial position. Repeat.

**Position:** Stretched out on the floor, resting on your hands and knees. **Movement:** Slowly bend your elbows while keeping your knees on the ground. Push up off the ground to return to initial position. Repeat.

## Upper body

	Shoulder girdle	
4a		<b>Position:</b> Standing or sitting with a weight in each hand. <b>Movement:</b> Raise your shoulders, rolling them backwards. Repeat.
4b		<b>Position:</b> Standing or sitting with a weight in each hand at shoulder level. <b>Movement:</b> Extend one arm straight up, then lower it. Do the same for the other arm. Repeat.
4c		<b>Position:</b> Standing or sitting with your arms straight down and a weight in each hand. <b>Movement:</b> Raise your elbows. Lower them and repeat.

## Abdominals



#### Abdominals

**Position:** Sitting on a chair with your arms crossed on your chest. **Movement:** Lean back, and then return to the initial position. Repeat.

**Note:** Make sure to keep your chin close to your chest during the exercise.

**Position:** Lying on your back with your legs bent and your arms extended upwards, with or without a cushion to support your neck. **Movement:** Reach for the ceiling while raising your shoulders off the ground. Repeat.

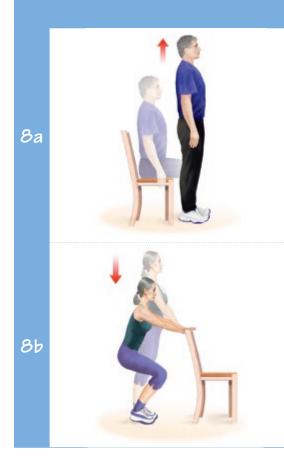
**Position:** Lying on your back, with or without a cushion to support your neck. **Movement:** Pedal in the air with your legs (bend and extend them one at a time).

**Note:** Make sure to properly support your lower back.

## Lower body

	Gluteus	
6a		<b>Position:</b> Lying on your back with your knees bent. <b>Movement:</b> Lift your buttocks to make a bridge. Lower and repeat.
6Ь		<b>Position:</b> Standing with your elbows resting on a table. <b>Movement:</b> Lift one leg straight back. Lower and repeat. Change leg after a complete set.
Leg abductors		
7		<b>Position:</b> Lying on your side with your leg on the floor slightly bent and your top leg extended. <b>Movement:</b> Move your top leg towards the ceiling. Repeat. Change leg after a complete set. <b>Note:</b> Keep your toes pointed towards the floor while lifting your leg.

## Lower body



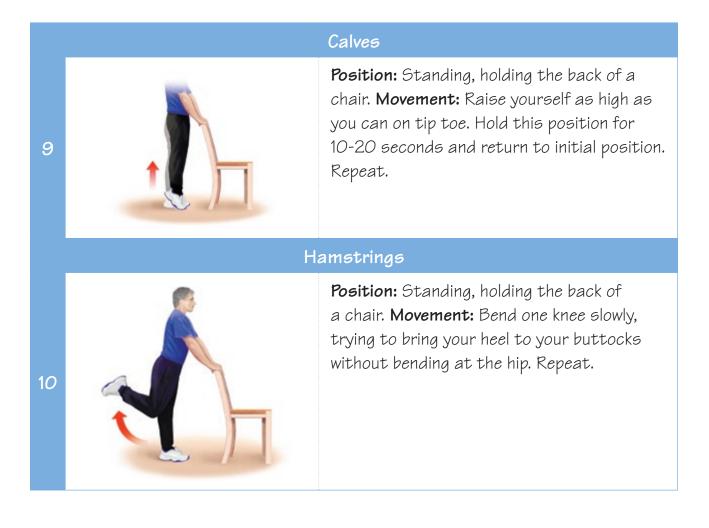
#### Quadriceps

**Position:** Sitting on a chair. **Movement:** Stand up slowly and sit down again slowly without using your hands. Repeat.

**Position:** Standing, holding the back of a chair. **Movement:** With your upper body leaning slightly forward, bend your knees. Repeat.

**Note:** To increase the level of difficulty, remain in the bent knee position for 10-15 seconds without holding your breath.

## Lower body



### Signs that your workout was too strenuous

It is natural to feel fatigue or discomfort during muscle strengthening exercises. This discomfort may be felt in specific areas or throughout the body following the workout. However, be aware that the following signs suggest that your workout was too strenuous:

- Sharp joint pain
- Dizziness or vertigo lasting more than one minute
- Severe breathlessness (more than 6 on the scale of perceived effort)

If you experience one or more of these symptoms, you should temporarily stop the exercise and consult your doctor and/or a healthcare professional.

## Winding down, flexibility and balance

After your workout, give your body a few minutes to relax and wind down. Take advantage of this moment to do some stretching. These exercises promote flexibility and relaxation. They also make it easier for you to perform daily tasks such as tying your shoes, bathing, etc.

#### General guidelines:

- Adopt a proper posture before starting your stretching and balance exercises. Standing or sitting, lower your shoulders and align your head and neck with your back (as if you were resting on a wall).
- For each stretch, **maintain the position for 20-30 seconds**. You should feel a slight discomfort due to the stretching, but no pain. Repeat each exercise 1-2 times.
- Breathe normally without holding your breath.
- Each stretching movement should be done slowly and gently, without bouncing.

Working on your flexibility will make you more limber.

## Flexibility exercises

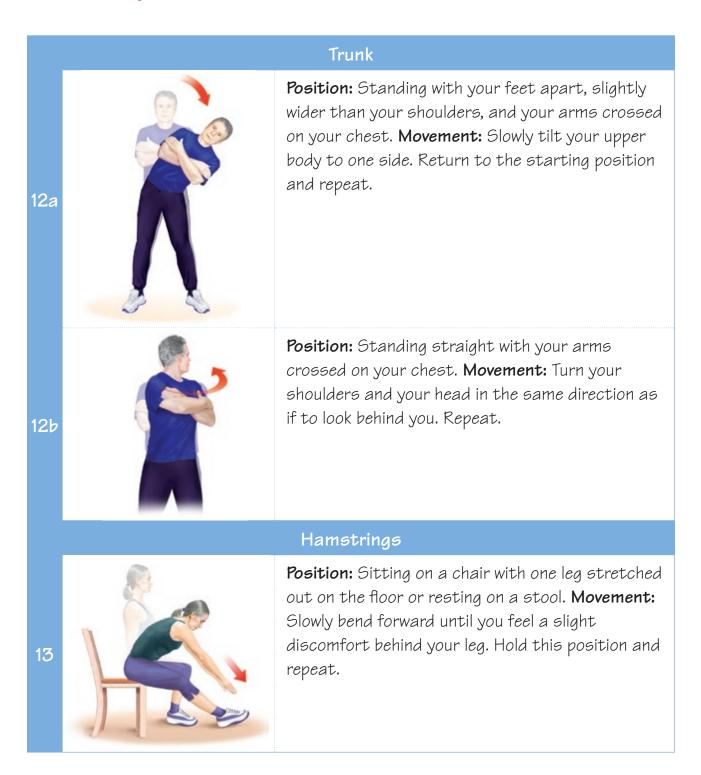


#### Neck

**Position:** Holding your back straight and looking straight ahead. **Movement:** Tilt your head to one side as though to touch your shoulder with your ear. Straighten your head and repeat towards the other side.

**Position:** Holding your back straight and looking straight ahead. **Movement:** Slowly lower your chin towards your chest, keeping your shoulders relaxed. Straighten your head (without tilting backwards). Repeat.

### Flexibility exercises



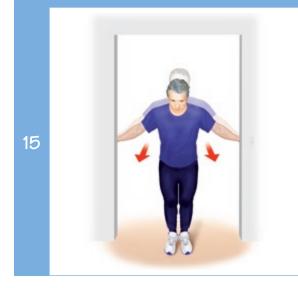
### Flexibility exercises



#### Quadriceps

**Position:** Standing with one knee resting on a chair. **Movement:** Tilt your pelvis forward until you feel a stretch in your front thigh.

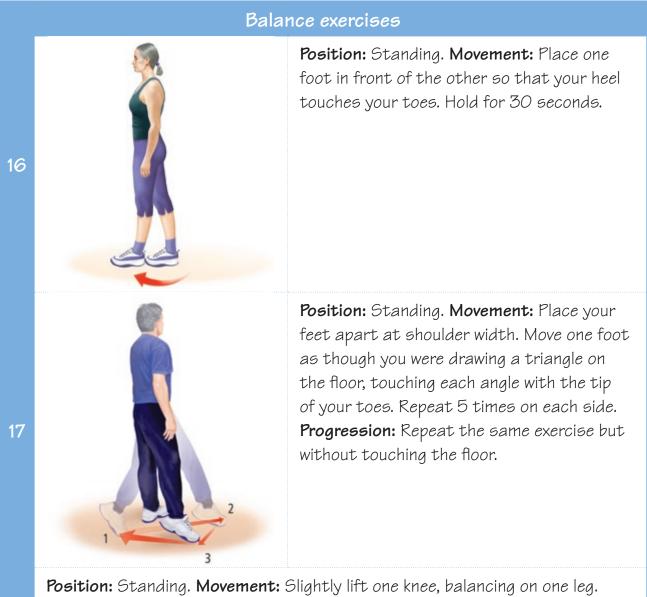
#### Pectorals



**Position:** Standing inside a doorway with your arms behind you and holding on to the door frame. **Movement:** Tilt your body forward until you feel a stretch along your chest and arms.

## Balance exercises

In order to perform the following exercises safely, stand next to a wall or a piece of furniture you can hold on to, if you need to.



**Position:** Standing. **Movement:** Slightly lift one knee, balancing on one leq Hold this position for 10 to 20 seconds.

# The importance of maintaining your exercise program

#### Remember that:

The performance of cardiovascular and muscle strengthening exercises must be ongoing in order to maintain long-term benefits.

After just a few days of inactivity, you already start to lose a bit of your endurance and strength built up during your exercise program.

Did you know that to reduce shortness of breath:

- Your regular exercise program has a therapeutic effect stronger than the best medication.
- Regular exercise and optimal medication represent the best possible combination.

Active people maintain their self-reliance as well as their physical and mental health for a longer period.

# Congratulations! You already follow an exercise program

What benefits have you experienced?

What you think: \_\_\_\_\_

What your family and friends think:

Which factors help you maintain your exercise program?

Which factors prevent you from maintaining your exercise program?

Do you know of ways or individuals that could help you overcome these barriers? Describe.

## Here are a few solutions to barriers sometimes encountered while trying to maintain an exercise program

Barriers	Possible solutions
Aggravation of COPD symptoms (exacerbation)	<ul> <li>Reduce the intensity of your workout or stop temporarily until your symptoms improve.</li> </ul>
	<ul> <li>Use your action plan (if you have one) and contact your resource person. If you do not have one, contact your doctor.</li> </ul>
	<ul> <li>Start doing light physical activities as soon as your symptoms improve. Then, increase gradually (for example, start to do your warm-up and flexibility exercises only).</li> </ul>
	<b>Note:</b> Contact your doctor or healthcare professional if you are unable to resume your usual physical activities following an exacerbation of your COPD.
	Your solution:
Environmental factors (heat, humidity, rain,	• Identify activities that you can perform indoors (gym, stationary bicycle, swimming) and which are independent of climatic conditions.
wind, cold, etc.)	• Consider possible alternatives for very hot days: use an air conditioner or a fan, or walk in a shopping mall; you can also choose a time of day when it is cooler.
	Your solution:

Barriers	Possible solutions
Accessibility, transportation	<ul> <li>Find out about services available in your community (volunteers, accessibility transit, car pooling, disabled parking permit).</li> <li>Your solution:</li> </ul>
Lack of financial resources	<ul> <li>Your community may offer an array of free or affordable activities.</li> <li>Check with your family and friends to find out if you can get used equipment (purchase or donation).</li> <li>Your solution:</li> </ul>
Emotional problems: stress, anxiety, depression	<ul> <li>Physical activity is a good strategy to help you through difficult periods.</li> <li>Do not hesitate to consult a healthcare professional or your doctor.</li> <li>Your solution :</li></ul>

Barriers	Possible solutions
Lack of interest	• Be proud of what you have accomplished.
	• Reward yourself: it is important to celebrate.
	• Exercise in different places or imagine a different way of doing things that would increase your interest in exercising.
	<ul> <li>Ask someone to join you.</li> </ul>
	Your solution:
Vacation	• Set aside some time to exercise during your vacation.
	• Take advantage of the situation to do different exercises.
	Your solution:

Do not hesitate to contact your healthcare professional who can help you find solutions to these or other problems which could represent barriers to the continuation of your exercise program.

# Here is an opportunity to plan ahead!

My plan to maintain my exercise program over the next month:

My plan to maintain my exercise program for the year:

My plan to maintain my exercise program during and after an exacerbation of my COPD:

# Equipment needed for your exercise program at home

Even if you perform physical activities outside, it is important to have a few small pieces of equipment at home for your training.

Choose from the following, according to your interests, your means and the space available at home.

#### For aerobic exercises:

- Stationary bicycle
- Treadmill
- Step mill
- Elliptical
- Stairs at home

#### For muscle strengthening exercises:

- Weights
- Elastic bands
- Sand bags
- Swiss ball
- Floor mat
- Many household objects can be used as weights: cans, plastic bottles filled with sand...

# Let us see whether you are ready to integrate an exercise program into your life

On a scale of 1 to 10, circle the number corresponding best to your ability to follow an exercise program regularly and over the long term, considering the various tools now at your disposal.

1. Do you believe that you are able to follow your exercise program regularly (at least 3 days/week) for one month?

	1	2	3	4	5	6	7	8	9	10
	Not co	onfident	at all						Very co	onfident
2.	-	u believ arly (at		-			-	ercise p	program	1
	1	2	3	4	5	6	7	8	9	10
	Not co	onfident	at all						Very co	onfident
3.	will ธเ		at cont	rolling	0	0 0			long ter d at incl	•

1	2	3	4	5	6	7	8	9	10
Not c	onfident	at all						Very co	onfident

If you feel confident, make exercise an integral part of your daily routine.

**If you do not feel confident**, it is very important to talk with your healthcare professional who could help you.

## In summary:

Make exercise an integral part of your daily routine. Take time to exercise and to enjoy it.

Surround yourself with people who believe in you and who love you. Be confident! It is a prerequisite for success.

By exercising, you can change your body and your mind. You will be able to do more and you will feel more confident.

Don't forget to reward yourself, you deserve it!



# Your exercise program

### 1. Warm-up exercises:

Start with \_\_\_\_\_ to \_\_\_\_\_ minutes of \_\_\_\_\_

#### 2. Cardiovascular exercises:

Type of exercise		
Frequency		
Duration		
Workload		
Scale of effort		

#### 3. Muscle strengthening exercises:

Exercises	Weights (resistance)	Repetitions	Frequency

#### 4. Relaxation: \_\_\_\_

Patient's signature

Healthcare professional's signature

Tel.:\_\_\_\_\_

Date:\_\_\_\_\_

Date: \_\_\_\_

## Notes:

activities
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Year Month

	Saturday					
	Friday S					
	Thursday					
	Wednesday					
	Tuesday					
ACTIVITIES	Monday					
CALENDAR OF PHYSICAL ACTIVITIES	Sunday					
CALENDAR O	Week	-	N	Ю	4	Q

# Instructions

- Plan activities you would like to do each day.
   Write the total number of minutes or steps walked that day.

# The long-term maintenance of your exercise program

Take some time to review your long-term plan.

1. Which objectives have you been able to attain?

- 2. Which factors have helped you to attain your maintenance objectives?
- 3. Are there any objectives that you have not yet attained? Which ones?

4. Which factors could help you attain these objectives?

Review your maintenance objectives and the helping factors with your healthcare professional and your doctor.

# Notes:


# Acknowledgements

Contributors to the 2<sup>nd</sup> edition

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Boehringer Ingelheim



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ActionAir 1-866-717-MPOC (6762) www.lung.ca/breathworks/fr/



Living Well COPD

Chronic Obstructive Pulmonary Disease

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