

# Parkinson's DISEASE AND EXERCISE



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## Parkinson's disease and exercise

Many factors influence the treatment of Parkinson's disease, integration of a program of exercise being of particular importance. Exercise helps maintain autonomy and maximize the effect of medication, thus improving the quality of life.

### Exercise has many functions and benefits. It helps to:

- improve muscle flexibility, range of motion, coordination, balance, gait, speech and dexterity
- strengthen tensor muscles which help keep the back straight
- lessen stiffness and problems of posture
- lessen fatigue
- help relax muscles and relieve cramps
- reduce stress, depression, insomnia and constipation

Some studies also suggest physical exercise may possibly slow the progression of Parkinson's disease as well.

### Take care!

It is recommended that you have your condition assessed by a health or physical activity professional before engaging in an exercise program so one can be designed that's just right for you and that takes into account your condition, goals and concerns, making it safe for you to engage in.

Remember that an exercise program is not a substitute for medication, but can be a complement to it.

### Which exercise program is right for you?

There are many physical activities that are beneficial to people with Parkinson's disease. They sometimes have to be adapted to your condition. Find out about groups you could join from the Parkinson organization in your area, your local CLSC and your community.

## Suggested activities

- Tai chi
- Yoga
- Singing and dancing
- Walking

*Kino-Québec has published a guide, “Walking... in step with nature!”, which includes a booklet to help you create your own walking program. You can download it from the following link: [parkinsonquebec.ca/en/info-center-parkinson/exercices/](http://parkinsonquebec.ca/en/info-center-parkinson/exercices/)*

- Nordic walking
- Swimming or water aerobics
- Cycling
- Boxing
- Wii Fit game console

*Studies are starting to document its beneficial effects on the physical condition of those afflicted, such as strengthening of upper body muscles and improvement in balance and overall strength*

- Stationary bicycle, treadmill

*Always be aware of speed and rhythm, of upper body bent forward. Always keep your back straight. Another person may have to help you avoid falls.*

## Helpful hints to make physical activity more beneficial and enjoyable

- Wear comfortable clothing and athletic footwear
- Wear closed shoes with flat heels, never wear slippers
- Breathe deeply while exercising
- Exercise making sure no pain develops
- Exercise when your medication is at peak efficiency
- Exercise regularly and make it a part of your daily life
- Vary your activities
- Have fun!

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**Consistency** is the key to success of an exercise program. One 30-minute session a day is recommended. If that's too much, exercising **three times a week** is an acceptable compromise. It's also important to take **breaks** during an exercise session so you won't overdo it; this will avoid fatigue, as well as aches and pains.

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## Staying active on a daily basis

- Walk
- Plan short exercise sessions (5 to 10 minutes) throughout the day to loosen your legs, stretch and breathe deeply
- Stretch when you get out of bed, relax all of your muscles and maintain that position between 30 and 60 seconds
- Read out loud, exaggerating syllables to exercise your pronunciation and the intonation of your voice
- Rotate your upper body for a few minutes once you've sat down at the table for dinner
- Use the stairs instead of the elevator
- Get off the bus at one earlier stop

You should start exercising at the onset of the disease. However, even if you get a late start, your body will adapt and you'll feel better. To fully benefit from what physical activity has to offer, it is important that you gradually increase its intensity, as well as the time you allow to it until you've reached 30 minutes a day. Do sweeping movements that call upon your whole body.

*Do things you like and that give you quality time with friends and family! You'll enjoy yourself and it will more easily become a part of your daily life!*

## It's never too late to start!

# EXERCISE PROGRAM

## FLEXIBILITY

It is important to have good joint and muscle flexibility to be able to accomplish daily tasks. At the start of a period of physical activity, it is preferable to begin with movements that are not too intense, but which combat the muscle stiffness typical of people with Parkinson's disease. The following exercises are highly recommended.

### EXERCISE 1

While sitting or standing.



1. Gently tilt your head forward and backward.



2. Tilt your head from left to right.



3. Move your chin forward and backward.

4. End by bending and straightening your upper body.

Repeat each exercise 10 times. Increase or decrease the frequency according to tolerance.

## EXERCISE 2

While sitting or standing.



1. Bend the arms while holding a stick.
2. Extend the arms while holding a stick.

Repeat each exercise 10 times. Increase or decrease the frequency according to tolerance.

## EXERCISE 3

While sitting.



1. Bend and extend the knees.

2. Point and flex the feet.

Repeat each exercise 10 times. Increase or decrease the frequency according to tolerance.

## STRETCHING

During the next stage of physical activity, it is recommended to maintain a position that promotes stretching of the muscles required for the more intense workout to follow. The muscle relaxation that occurs after stretching is particularly beneficial for people with Parkinson's disease. These exercises are recommended mainly for the flexor muscles of the upper body, arms and legs.

### EXERCISE 4

While standing.



1. Let your arms fall by your side.



2. Join your hands together over your chest.



3. Raise your arms over your the head separate your hands and hold this position for 10 seconds.



4. Bend your upper body to the side while holding the same position.

Repeat the exercise 6-8 times. Increase or decrease the frequency according to tolerance.

## POSTURE

Parkinson's disease results in a typical posture with the upper body and head bent forward and knees bent, which brings the person's centre of gravity forward. Our centre of gravity enables us to maintain or change position without the risk of falling, and with minimal effort. Here is an easy exercise to do to counter this situation.

### EXERCISE 5

While standing.

1. Press your back against a wall, moving your shoulder blades backward.
2. Keep your head straight and chin tucked in.
3. Hold this position for 30 seconds.
4. Relax.



Repeat the exercise 6-8 times. Increase or decrease the frequency according to tolerance. To make the exercise easier, you can put a small foam ball behind your head, holding it in place against the wall with your head.

## COORDINATION

To counter the slowness and frequent bradykinesia associated with Parkinson's disease, try exercises that require using the arms and legs at the same time in a series of alternating or opposed movements, gradually increasing the speed of execution. These exercises require a great deal of concentration. It is easier to do them slowly and follow a model.

## EXERCISE 6

While sitting.

1. Simultaneously lift your left arm to the side and raise your right knee.
2. Relax.
3. Simultaneously lift your right arm to the side and raise your left knee.
4. Alternate these two movements.



Repeat the exercise 10-12 times. Increase or decrease the frequency according to tolerance.

## EXERCISE 7

While sitting.

1. Place your hands on your thighs, one palm up and one palm down.
2. Alternately switch the position of your hands.
3. Gradually increase the speed.



Repeat the exercise 10-12 times. Increase or decrease the frequency according to tolerance.

## MANUAL DEXTERITY

To maintain dexterity and grip strength, try wrist and finger movement exercises.

### EXERCISE 8

While sitting or standing.

1. Touch each finger in turn to the thumb.
2. Alternate the left and right hands, or do both hands at the same time.



Repeat the exercise 10 times. Increase or decrease the frequency according to tolerance.

### EXERCISE 9

While sitting or standing.

1. Make a tight fist.
2. Open the hand and extend it completely.
3. Alternate the left and right hands, or do both hands at the same time.



Repeat the exercise 10 times. Increase or decrease the frequency according to tolerance.

## FACIAL GYMNASTICS AND PHONATION

People with Parkinson's disease need to do facial exercises to improve their facial expressions. To maintain clear speech, it is a good idea to do phonation exercises. It is also possible to turn daily activities into opportunities for exercise: Read aloud, sing or make faces in the car.

### EXERCISE 10

While sitting or standing, using a mirror.



1. Make an exaggerated smile showing your teeth.



2. Pretend to drink from a straw (breath in).



3. Blow out the cheeks, simultaneously or alternately.



4. Frown.



5. Stretch your tongue up and down and from side to side.

Repeat the exercise 10 times.

## EXERCISE 11

While sitting or standing.

1. Make the sound “eee” (as in feet).
2. Make the sound “ooo” (as in boot).
3. Alternate the two sounds.

Repeat the exercise 10 times.

## WALKING

Walking is excellent exercise and is always encouraged. Ideally, a 30-minute walk every day is suggested. But shorter periods, according to ability, are also recommended. Regular walks are preferable to occasional long walks.

## EXERCISE 12

While standing.

1. Walk in place, lifting the knees as high as possible.
2. Swing arms back and forth in an exaggerated manner. Keep your head straight, looking far ahead.
3. Accompany this exercise with orders spoken aloud, such as in a military march: Say “1, 2”, “right, left” to improve rhythm.



Do this exercise for 2 or 3 minutes or longer, according to tolerance.

## IMPROVE BALANCE

Balance depends on many physical components: Posture, muscle strength, mobility, vision, proprioception (the sense of one's position in space) and the vestibular system, which is responsible for balance reflexes. Several of these components are affected by Parkinson's disease and decrease the person's ability to react when off balance. When doing exercises to improve balance, make sure you have a stable support nearby at all times.

### EXERCISE 13

While standing.

1. With feet slightly apart, shift your weight from one hip to the other.

Repeat the exercise 15 to 20 times. Increase or decrease the frequency as tolerated.



### EXERCISE 14

While standing, using a chair for support.

1. Swing one leg back and forth.
2. Repeat with the other leg.

Repeat the exercise 10 times for each leg.



## STRENGTHENING

Adding weight or resistance to increase physical strength must be done with caution. Remember that the goal is to promote greater range of movement and improve joint flexibility, as these both tend to decrease as the disease progresses. Repeating the exercises helps maintain strength. These exercises are very beneficial for the extensor muscles of the arms and legs.

### EXERCISE 15

While sitting, with 1- to 3-kg weights on the wrists.

1. Extend, then bend the left arm.
2. Repeat the exercise with the right arm.

Repeat the exercise 10 times for each arm.



### EXERCISE 16

While sitting with 1- to 2-kg weights on the ankles.

1. Extend, then bend the left leg.
2. Repeat the exercise with the right leg.

Repeat the exercise 10 times for each leg.



## **BREATHING**

Maintaining breathing capacity is vital. Learning to breathe, which means breathing in and out deeply, is important for good oxygenation of the body and to counter increased rib cage rigidity.

### **EXERCISE 17**

While sitting or lying.

1. Breathe in deeply through the nose, inflating the abdomen, then breathe out deeply through the mouth, pulling in the abdomen; put one hand on your abdomen to monitor abdominal movement.

Repeat the exercise 10 times.

## **AEROBIC**

It is good to include activities that are more demanding on your cardiovascular system, especially in the early stages of Parkinson's disease. Exercises that produce a heart rate of 50-70% of the maximum are recommended. These counter the effects of stress while promoting good general physical condition.

Examples: Cycling, stationary bicycle, dance, various sports, swimming (with supervision in case of freezing of the feet or an off period).

## **RELAXATION**

These stimulate relaxation of muscle tension caused by rigidity. Several methods are available; you should learn those that appear the easiest and most comfortable for you. Learning to manage stress carries with it a sense of well-being and lasting benefits. Lying down or sitting comfortably, close your eyes and try to relax by listening to soft music, imagining a pleasant place or moment.

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