

# Physiotherapy Exercise for Parkinson's Disease

**Parkinson's disease is a neurodegenerative disorder. People with Parkinson's disease experience symptoms such as tremor, rigidity and slowness of movement, causing difficulties with coordination and disturbances to their daily life. Through practising suitable physiotherapy exercises, people with Parkinson's disease can improve their mobility.**

**To avoid injury caused by improper exercise technique, please use this booklet after receiving guidance from a physiotherapist or other healthcare professionals.**



Department of Health



Elderly Health Service

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## Friendly Reminder

All exercises are marked with the signs shown below; indicating their suitability for people with different stages of Parkinson's disease .

**E**

This exercise is suitable for patients with **early stage disease**

**M**

This exercise is suitable for patients with **mid-stage disease**

**L**

This exercise is suitable for patients with **late stage disease**

# 1 Objectives of Physiotherapy Exercises

1. To enhance the flexibility of muscles and ligaments, maintain and increase the range of motion and flexibility of joints, and improve slowness of movement and rigidity
2. To increase muscle strength, improve balance and reaction time, in order to reduce the risk of fall
3. To correct posture, prevent muscle atrophy, prevent rigidity and deformity of the limbs and body, and minimize secondary complications
4. To improve cardiopulmonary function, gait, walking speed, and ability to transfer
5. To improve orofacial muscle function, and minimize difficulties in swallowing and communication

# 2 Exercise Precautions

1. Ensure that there is sufficient space and sturdy furniture or handrails for support
2. Wear comfortable and appropriately sized clothing and shoes
3. Do not exercise if too full or too hungry
4. If taking Parkinson's disease medication, exercise at the times of day when the medication is in effect
5. Patients with chronic diseases, such as coronary heart disease, hypertension, diabetes, arthritis, and so on, should consult a doctor or physiotherapist before exercising
6. Do not perform the following exercises if there is an unhealed wound, recent fracture, sprain or joint dislocation, etc.
7. Elderly persons should exercise under the guidance of a physiotherapist, and progress slowly according to their capability. The exercises should be performed in a safe way, and should not cause any pain or discomfort
8. Stop immediately if you feel any discomfort or difficulty during exercise, and seek advice from physiotherapists or other healthcare professionals

# 3 Stretching Exercises / Joint Mobility Exercises

## A Trunk Exercises

### ◇ Trunk Rotation



**Position:** Lie on your back, bend both knees and place your feet flat on the bed

**Instructions:** Move your legs from side to side, with knees as close to bed as possible, hold for 5–10 seconds; keep your shoulders touching the bed

**Frequency:** Practise 2–3 sets per day, repeat 10–20 times for each set

**Note:** This exercise is not suitable for patients with total hip replacement



## OR



**Position:** Sit on the edge of the bed with both feet on the floor

**Instructions:** With outstretched arms, hold onto a ball or small object. Move the object from side to side as much as possible while rotating your trunk; hold for 5–10 seconds on each side

**Frequency:** Practise 2–3 sets per day, repeat 10–20 times for each set

## ◇ Trunk Side Flexion **E** **M** **L**

**Position:** Either stand or sit, place one hand on your waist or hold onto a sturdy handrail

**Instructions:** With your right hand raised above your head, bend your head and trunk towards the left as much as possible, and hold for 5–10 seconds; return to the starting position and repeat on the other side

**Frequency:** Practise 2–3 sets per day, repeat 10–20 times on each side

**Note:** Remember to face forward and do not shrug your shoulders



## **B** Upper Limb Exercises

### ◇ Shoulder Circles **E** **M** **L**



**Position:** Either stand or sit

**Instructions:** Place your fingers on both shoulders with elbows bent, make circles with your shoulders in a forward direction 10 times, then in a backward direction 10 times

**Frequency:** Practise 2–3 sets per day

## ◇ Elbow Stretch **E M L**

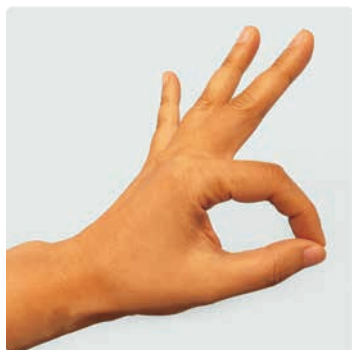
**Position:** Either lie on your back, stand or sit

**Instructions:** Interlock your fingers in front of your chest, and turn your palms facing outward, straighten your elbow and push your palms forward, hold for 5–10 seconds

**Frequency:** Practise 2–3 sets per day, repeat 10–20 times for each set



## ◇ Counting with Your Fingers **E M L**



**Position:** Either lie on your back, stand or sit

**Instructions:** With each finger, touch your thumb in turn and hold for 5–10 seconds on each touch. You may practise the exercise on either hand alternately or on both hands at the same time

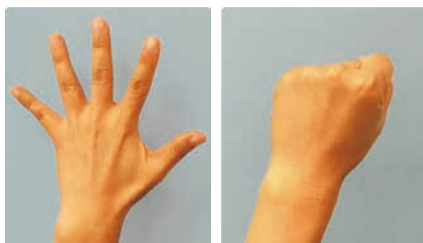
**Frequency:** Practise 2–3 sets per day, repeat 10–20 times for each set

## ◇ Open and Close Your Fist **E M L**

**Position:** Either lie on your back, stand or sit

**Instructions:** Make a tight fist, then open your hand and spread your fingers as wide as possible. You may practise the exercise on either hand alternately, or on both hands at the same time

**Frequency:** Practise 2–3 sets per day, repeat 10–20 times for each set



## C Lower Limb Exercises

### ◇ Knee Flexion and Extension



**Position:** Lie on your back

**Instructions:** Slowly bend your left knee, then straighten your knee and relax. Repeat with your right knee

**Frequency:** Practise 2–3 sets per day, repeat 10–20 times on each side

**Note:** People who have had a total hip replacement should not bend their hip more than 90 degrees

### ◇ Ankle Rotation



**Position:** Either lie on your back or sit

**Instructions:** Rotate your right ankle clockwise and anti-clockwise, 10 times in each direction; repeat with your left ankle

**Frequency:** Practise 2–3 sets per day



## ◇ Hip Flexion and Extension

**E****M**

**Position:** Stand while holding onto a sturdy handrail or a piece of furniture with both hands

**Instructions:** Bend your left leg at the hip and lift your knee. Then, slowly straighten your leg and lift it backwards. Place your left foot on the floor

**Frequency:** Practise 2–3 sets per day, repeat 10–20 times on each side

**Note:** Keep your back straight; people who have had a total hip replacement should not bend their hip more than 90 degrees



## ◇ Calf Stretch

**E****M**

**Position:** Stand while holding onto a sturdy handrail or a piece of furniture with both hands

**Instructions:** Take one step forward with your left leg and extend your right leg backwards, keeping your back straight. Bend your left knee until a stretch is felt along the right calf. Hold for 10 seconds. Repeat the stretch with your right leg

**Frequency:** Practise 2–3 sets per day, repeat 10–20 times on each side



# 4 Muscle Strengthening Exercises

## ◇ Knee Strengthening Exercise



**Position:** Lie on your back and place a pillow or a milk powder can beneath your knee



OR



**Position:** Sit on a chair with a backrest

**Instructions:** Secure a 1–2 pound sandbag around right ankle. Slowly straighten your right knee and point your toes towards yourself. Hold for 5–10 seconds and then relax, practise on the other leg

**Frequency:** Practise 2–3 sets per day, repeat 10–20 times on each side

- Note:**
1. Do not straighten both knees at the same time as it may increase the strain to your back
  2. If you feel no muscle soreness after the exercise, you can enhance the muscle strengthening effect by gradually increase the weight of the sandbag. Add half a pound to one pound of weight after every one month training period, up to a maximum of three to four pounds

## ◇ Shoulder Strengthening Exercise



**Position:** Either lie on your back, stand or sit

**Instructions:** With a water bottle in your hand, raise your arm and hold for 5 seconds



**Frequency:** Practise 2–3 sets per day, repeat 10–20 times on each side

**Note:** Start with half a pound to one pound of water weight (225–450 ml). You may increase the amount of water according to your ability, by half a pound to one pound after every month



## 5 Balance Exercises



## ◇ Single Leg Stand



**Position:** Stand while holding onto a sturdy handrail or a piece of furniture with both hands

**Instructions:** Bend one of your knees backward, hold for 5–10 seconds and then relax

**Frequency:** Practise 2–3 sets per day, repeat 10–20 times on each side

**Note:** Keep your back straight

# 6 Postural Correction Exercises

**E** **M** **L**

**Position:** Either stand or sit

**Instructions:** Press your shoulders against the wall as far as possible, hold for 5–10 seconds, and then relax

**Frequency:** Practise 2–3 sets per day, repeat 10–20 times for each set

**Note:** Keep your back straight after the exercise and during daily activities



# 7 Gait Training

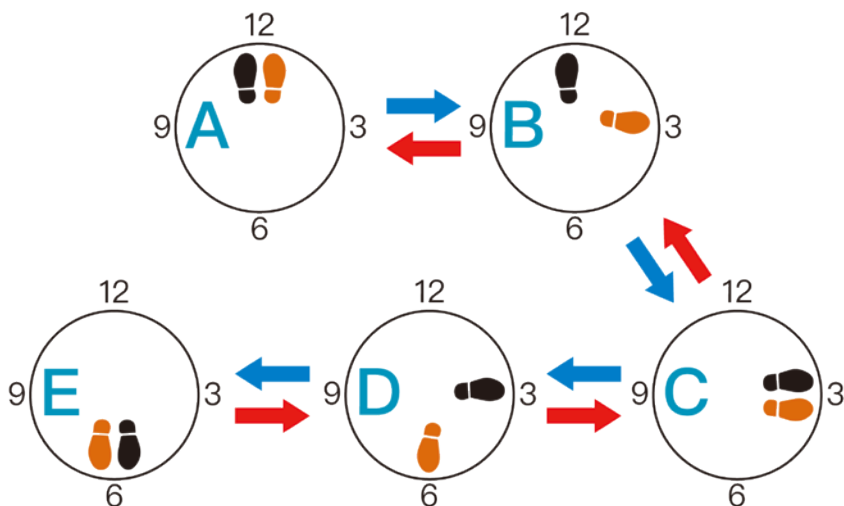
## ◇ Training on making turns (in a clockwise direction)



**Instructions:** Imagine there is a clock on the floor, and you are facing the 12 o'clock direction. Make a 90 degree turn such that you are facing the 3 o'clock. From here, make another 90 degree turn so you are facing the 6 o'clock direction. You have now turned 180 degrees. (Example: in a clockwise direction: A→B→C→D→E; in an anti-clockwise direction: E→D→C→B→A)

**Frequency:** Practise 2–3 sets per day, repeat 3 times in the following sequences:  
(A→B→C→D→E→D→C→B→A)

- Note:**
1. Practise in a clockwise or anti-clockwise direction according to your needs
  2. When making turns, do it slowly and take care not to fall or get dizzy. Take a rest in between each practice if needed.



## ◇ Auditory Cueing



**Position:** Stand while holding onto sturdy a handrail or a piece of furniture with both hands

**Instructions:** March on the spot. Lift your knees as high as possible. Stick to a rhythm (for example, count 1,2, 1,2 by yourself, or have a family member to help with the counting)

1 · 2 · 1 · 2.....



## ◇ Visual Cueing



**Instructions:** Mark the floor with coloured tapes (each piece of tape should be 2 feet long, 1 inch wide; choose a colour which is easy to see against the floor colour). Place each piece of tape about one step apart. Then, walk across each coloured tape as if you are walking over an obstacle. Lift your leg as high as possible and walk with your heel striking the floor first. This helps to improve step length and the freezing of gait

**Note:** 1. Do not use any obstacles of increased height in place of the tape as this gives risk to tripping

2. This exercise should be assisted by family or friends, in order to avoid falling due to a loss of balance



**Frequency:** Practise 1–2 times per day, 10–15 minutes each

**Note:** The duration of practice should depends on one's condition and capability. Do not overexert yourself with this exercise

# 8 Facial Muscle Exercises

M

**Instructions:** Use a mirror to evaluate your own performance; hold each exercise for 5 seconds to improve muscle rigidity and facial expressions

**Frequency:** Practise 2–3 sets per day, repeat 5 times for each set



Pursed lip



Blow out your cheeks  
(with mouth closed)



Smile (without showing  
your teeth)



Big Grin (showing  
your teeth)



Raise your eyebrows



Frown



Wrinkle your nose

# 9 Breathing Exercises

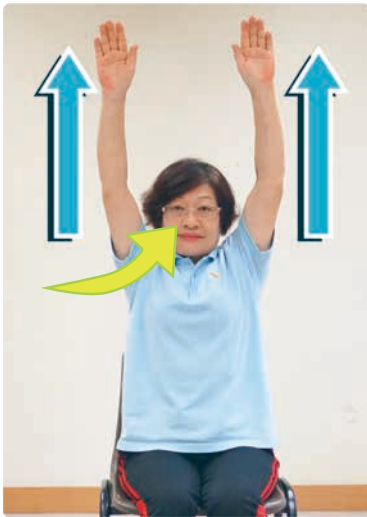


**Position:** Either stand or sit in a comfortable position, keeping your back straight

**Instructions:** Raise your arms, and take a deep breath in through the nose at the same time. Then, bring your hands down and breathe out slowly through the mouth. Rest for 3–5 seconds and then repeat

**Frequency:** Practise 2–3 sets per day, repeat 5 times for each set

**Note:** Do not perform this exercise continuously for a prolonged period of time to avoid causing any discomfort



# 10 Aerobic Exercises

## Brisk Walking

E

M



**Instructions:** Walk by striking the ground with your heel first, then rolling through your heel to your toe, and pushing out of the step with your toe. Take big steps while keeping your back straight, and swing your arms. Keep a steady pace faster than strolling but slower than jogging

**Frequency:** Gradually increase the stride length and walking speed. Start by practising 3 times per week, 15 minutes each, and gradually lengthen each walk to 30 minutes each

## Tai Chi

E

M

Can help improve problems in weight shifting (e.g. turning, stepping) and gait (toes touching the floor instead of heels) in people with Parkinson's disease



### Frequency:

Practise 2–3 times per week, one hour each



Elderly Health Service, Department of Health

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