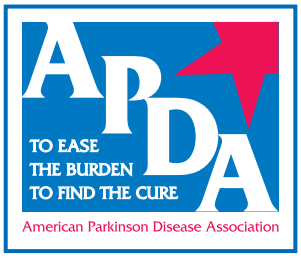
BE ACTIVE *& BEYOND*

A Guide to Exercise and Wellness
for People with Parkinson's Disease

American Parkinson Disease Association



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A Guide to Exercise and Wellness for People with Parkinson's Disease

This booklet was written for the
American Parkinson Disease Association
by

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It is with great pleasure that I introduce you to the latest edition of the **BE ACTIVE** manual. This booklet has been updated to provide timely information on exercises designed specifically for people with Parkinson's disease (PD). In addition, it is intended to describe the tools that will get you started, or keep you going, on your journey toward improved wellness.

As a Movement Disorders Specialist, I strongly encourage my patients to engage in regular exercise and to be as active as possible. Exercise is now recognized as a vital part of the treatment of PD. There is a growing body of literature describing the benefits of exercise for people with PD. The research reveals the importance of endurance, strengthening, balance, and stretching exercises to optimize function and enhance quality of life. The American Parkinson Disease Association (APDA) has recognized the importance of exercise and established the APDA National Rehab Resource Center at Boston University for people with Parkinson's disease. This booklet was developed by the physical therapists at this Center who are experts in the treatment of people with PD. This Center provides a toll-free telephone helpline that people with PD, family members, and healthcare professionals can call with questions about exercise and resources in their local area. If you have a question about exercise call the helpline at 1-888-606-1688 or email rehab@bu.edu.

As a physician, I feel this manual is a great springboard toward helping you make exercise a part of your life. The new edition encompasses national guidelines for exercise and reflects the most current evidence on exercise in PD. Clear photos with simple instructions are easy to follow. The manual addresses all levels of fitness, allowing people to safely initiate an exercise program, but also to continue to be challenged over time. I applaud you for your interest in enhancing personal well-being through exercise and encourage you to "**BE ACTIVE** & *BEYOND*," keep moving and feel good!

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HOW RESEARCH INFORMS EXERCISE RECOMMENDATIONS

Over the last decade there has been a tremendous increase in the number of studies demonstrating the benefits of exercise for people with PD. Importantly, the field has seen a recent expansion in the number of high-quality exercise trials, revealing the importance of long-term exercise to reduce disability. Exercise studies consistently reveal that people with PD can improve in the following areas:

- Strength
- Endurance
- Balance
- Mobility
- Walking ability
- Flexibility

Studies in older adults without PD reveal the benefits of exercise in improving cognition, depression, fatigue, and sleep. There is emerging evidence suggesting that people with PD who exercise may also experience improvement in these symptoms.

Does Exercise Slow the Progression of PD?

Studies investigating the impact of exercise in animal models of Parkinsonism reveal improved motor symptoms and enhanced dopamine transmission with exercise. Elevated chemicals, called neurotrophic factors, may protect against dopamine depletion and cell loss.

Although the impact of exercise on the human brain in people with PD is not fully understood, this research suggests that exercise may enhance overall brain health. Studies reveal that persons with PD who exercise experience less disability and better function compared to those who do not exercise. Given the potential impact of exercise on the brain and its known benefits in reducing disability, the research suggests that exercise should be part of the standard treatment of PD.

Starting Exercise Early and Sticking With It

The key to exercise is to make it a part of your life. Research suggests that exercise must be carried out regularly over the long term at an appropriate intensity to optimize the impact. While exercise is important at any time over the course of the disease, starting as early as possible is recommended. In this manual, we have included recommendations on how to determine the appropriate intensity for you and on how to stay motivated over the long term.

OVERCOMING BARRIERS TO EXERCISE

Despite the many benefits of exercise, it can be difficult for many people living with PD to exercise on a regular basis. Challenges include lack of motivation or simply trying to fit exercise into busy family and work schedules. People with PD may also have symptoms such as fatigue, apathy, or depression that may make it challenging to exercise regularly. In recent studies of people with PD, researchers identified low outcome expectation and self-efficacy (confidence in ability to exercise successfully) as barriers to participation in exercise. This means that people with PD who believe they will benefit from exercise and who feel they can exercise successfully are more likely to engage in exercise. The good news is that numerous studies over the last decade reveal that persons with PD are able to exercise safely, successfully, and experience numerous benefits.

Tips to Exercise Successfully:

- Choose something you enjoy – you'll be more likely to stick to it!
- Partner up – an exercise buddy can make exercise more enjoyable and may make you more accountable.
- Mix it up – variety is good and reduces boredom.
- Plan ahead and schedule your exercise – if you treat it like a meeting, you'll be more likely to fit it in.
- Join an exercise class – tai chi, yoga, boxing, or dance – socialization can increase enjoyment and the class schedule can help with regular participation.
- Feedback helps – use a pedometer and see how many steps you are taking per day. Set goals and gradually increase your step count. Experiencing success can increase outcome expectation and self-efficacy.

EXERCISE GUIDELINES

As we have discussed, research reveals the benefits of exercise for people with PD. More research is needed to determine the optimal amount of exercise specifically for those with PD. We refer to national exercise recommendations for adults in addition to the exercise studies in PD to inform our decisions. Several groups have provided guidelines for adults about physical activity and exercise. Some of these include:

- Department of Health and Human Services (HHS)
- American College of Sports Medicine (ACSM)
- World Health Organization (WHO)
- National Institute on Aging Information Center / National Institutes of Health (NIH)

Although there are some differences in the recommendations among these organizations, there is general agreement about the key aspects of a well-rounded exercise program. We've incorporated important elements from these guidelines into the table below considering the specific needs of those living with PD.

ENDURANCE	• 2 hours and 30 minutes of moderate-intensity exercise each week (30 mins, 5 times per week). • Start slow and gradually add more time. • People unable to meet these minimums can still benefit from some activity.
STRENGTH	• Train each major muscle group on 2 to 3 non-consecutive days per week. • Two sets of each exercise, 8-12 repetitions. • Use machines, bands, weights, or your own body weight to provide resistance.
FLEXIBILITY	• Perform at least 2-3 days each week. • Hold each stretch for 30-60 seconds to the point of tightness or slight discomfort, repeating 3-4 times. • Flexibility exercises are most effective when the muscle is warm (after exercising).
BALANCE	• Perform 2-3 days per week for 20-30 minutes. • Exercises should challenge balance, agility, and coordination. • Dance and tai chi are examples of activities that may improve balance in people with PD.

THE ROLE OF PHYSICAL ACTIVITY

The health benefits of leading an active lifestyle are well established. However, most adults in today's society lead fairly sedentary lives (sit too much) and do not engage in sufficient physical activity. People with PD are at risk of becoming too sedentary due to potential challenges related to mobility, mood, and motivation. Yet, with some guidance, it is possible to get on track to better health by becoming more active and by engaging in exercise.

What is the difference between "exercise" and being "physically active?"

Engagement in exercise and adopting an active lifestyle are different but equally important issues. Exercise refers to participation in a planned, structured program that may include endurance, strength, flexibility, and balance exercises. Endurance exercise, for example, can be accomplished in as little as 30 minutes per day. What you do in the remaining hours of the day is also very important and can have a significant impact on your overall health. Being physically active includes engaging in non-sedentary behaviors throughout the day (e.g., walking the dog, grocery shopping, and household chores). Your physical activity level can influence the effect that PD has on your general mobility.

How can I increase my physical activity?

In general, it is important for people with PD to minimize the amount of time spent sitting, reclining, or lying down and to maximize the amount of time spent standing and walking. Too much sitting can contribute to greater stiffness making mobility more challenging. These are some ways to increase your physical activity:

- For every hour of sitting during the day, get up and walk for at least 5-10 minutes.
- Participate in routine activities such as housework and yard work.
- Engage in community recreational activities to help increase overall activity level.
- Wear a pedometer (step counter) and gradually increase the number of steps you take per day. This will help you monitor your physical activity level over time.

EXERCISE BASICS

Before beginning any exercise program, it is recommended that you consult with your physician or physical therapist. They can help you determine if exercise is safe for you and the type and intensity of exercise most appropriate for you.

Chair against the wall: For clarity, all exercises in this manual have been shown using a chair against a plain background. However, in your home, always place your chair up against a wall. This increases the stability of the chair and improves your safety.

Consider your posture: In order to ensure that you are getting the maximum benefit of the exercises without placing strain on your back, pay careful attention to your posture. Use the pictures accompanying each exercise as a guide.

Support your head: Place a folded hand towel on the floor under your head to keep your neck in a neutral position during exercises that you do lying down. Do not place it under your neck.

Make it challenging: This manual includes different challenge levels for strengthening exercises. It is designed to ensure you are properly challenged at all times, thereby maximizing the benefit you get from each exercise. Select a level of each exercise so that your last few repetitions in the set are difficult. If it would be easy for you to continue the particular exercise without resting, then you should slowly increase the repetitions or progress to the next level.

Breathe: It is important that you do not hold your breath during any of the exercises in this manual. If you find yourself holding your breath, try counting your repetitions out loud.

SECTION I: ENDURANCE EXERCISE

Endurance or cardiovascular exercise increases your breathing and heart rate. Also referred to as aerobic activity, these exercises can improve your overall fitness.

Types of Endurance Exercise:

- Brisk walking
- Biking
- Jogging
- Swimming

Recommended Amount of Endurance Exercise:

Per week: 2 hours and 30 minutes total per week. Sample endurance programs:

- ☆ 30 minutes, 5 times per week
- ☆ 50 minutes, 3 times per week
- ☆ 10 minutes, 3 times a day, 5 times per week

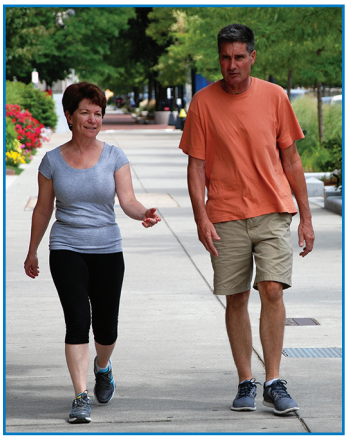
Recommended Intensity of Endurance Exercise:

DEFINING "MODERATE INTENSITY"

- **Talk test:** One way to determine if you are exercising at a moderate intensity is to use the talk test. During moderate intensity exercise you should be able to talk, but not sing. If you can only get a few words out that would be considered vigorous intensity exercise.
- **Rate your exertion:** Use a standardized scale such as the Rating of Perceived Exertion, or RPE. This scale measures your perceived exertion on a scale from 6 (no exertion) to 20 (max exertion). Aim to exercise at approximately a level 13 or what you would describe as "somewhat hard."

Rating of Perceived Exertion	
6	
7	Very, very light
8	
9	Very light
10	
11	Fairly light
12	
13	Somewhat hard
14	
15	Hard
16	
17	Very hard
18	
19	Very, very hard
20	

Walking as an Endurance Exercise:



While there are many different types of endurance exercise, we would like to highlight walking because it can be done almost anywhere and may already be part of your routine. In addition, you may have noticed changes to your walking as one of the early signs of PD. Some people may notice decreased arm swing, smaller steps, and/or a slower pace. Research has shown that, over time, people with PD tend to walk more slowly and spend less time walking. However, studies reveal that people with PD are able to improve the quality, the amount, and the speed of walking with participation in a walking program.

Keys to Improve the Quality of Your Walking:

- Take bigger steps
- Land on your heel
- Swing your arms
- Stand up tall
- Walk faster
- Walk to a beat*

t*Many people with PD can improve both the quality and speed of their walking by using a metronome or by listening to music at a particular beat. The beat provides a cue to help make walking more automatic. A physical therapist can teach you how to best use the cues to improve your walking.

SECTION II: STRENGTH EXERCISE

Strength training is another very important part of any exercise program. Research shows that strength exercises can improve strength, balance, walking, and general mobility in people with PD.

Types of Strength Exercise:

- Use your own body weight (e.g., push-ups or squats). See pages 12-23.*
- Lift free weights or use exercise bands.
- Try strength training machines/gym equipment.

Recommended Amount of Strength Exercise:

- Perform 2-3 times per week, on non-consecutive days.
- Complete 8-12 repetitions and 2 sets of each exercise (some muscle groups benefit from more repetitions as seen with some of the exercises in this manual).

Recommended Intensity of Strength Exercise:

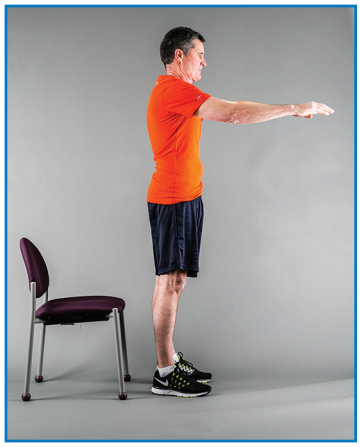
- Start slowly and monitor response: If you are just starting a strength training program, begin with the level 1 exercises listed in this booklet and increase based on your response. A small amount of muscle soreness that lasts 1-2 days is normal.
- The last 1-2 repetitions of the exercise should be challenging. If you are able to complete the last 1-2 repetitions easily, it may be time to increase the repetitions or move to the next level of that exercise.

In this manual, we illustrate exercises that use your own body weight because you can do them anywhere with minimal equipment.

SQUAT – LEVEL 1

Goal: Strengthen the large muscles in your legs that help you stand up from a chair, walk, and climb stairs.

- Place a standard height (17-19 inches) chair against the wall.
- Stand with your heels about 6 inches in front of the chair and your feet hip distance (or slightly wider) apart.
- Lower yourself into a seated position. Make sure to keep equal weight on both feet.
- Slowly return to standing.
- Perform 8-12 repetitions.

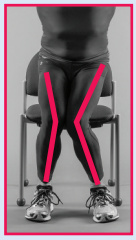


2-3x/week: 3 sets of 8-12 repetitions

COMMON MISTAKES

DO NOT allow knees past toes.

DO NOT allow knees to dip together.



Ready for a challenge?

If you've mastered the basics, why not try the next level?

Level 2

Mini-squat: Slowly lower your body as if to sit, but stop midway between standing and sitting; slowly return back to standing.

Level 3

Full squat: Slowly lower your body as if to sit. Stop just short of sitting then return to standing.

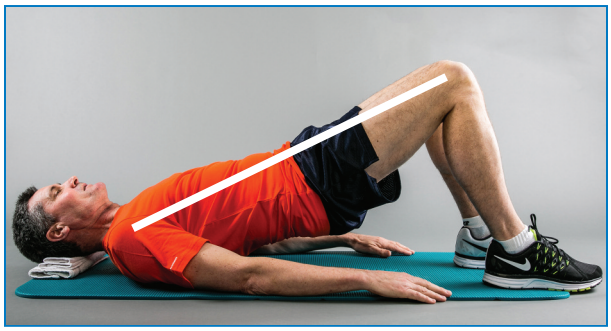
2-3x/week: 3 sets of 8-12 repetitions

Arm position: Arms can be crossed or straight out in front of you for any of the 3 levels of this exercise. Choose what is most comfortable for you.

BRIDGE – LEVEL 1

Goal: Strengthen the large muscles in your legs that help you stand up from a chair, walk, and climb stairs.

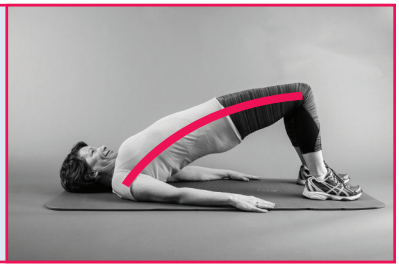
- Lie on your back with your knees bent, feet flat on the floor, and arms at your sides.
- Place a folded hand towel under your head as needed to keep your neck in a neutral position.
- While keeping your shoulders and feet in place, raise your hips. Try to create a straight line from your shoulders to your knees.
- Lower back down to the starting position.
- Perform 8-12 repetitions.



2-3x/week: 3 sets of 8-12 repetitions

COMMON MISTAKES

DO NOT lift your upper back off the floor.



Ready for a challenge?

If you've mastered the basics, why not try the next level?

Level 2


Arm up: Raise your arms straight up with palms facing one another. While keeping arms in that position throughout, perform Level 1 bridge.

Level 3

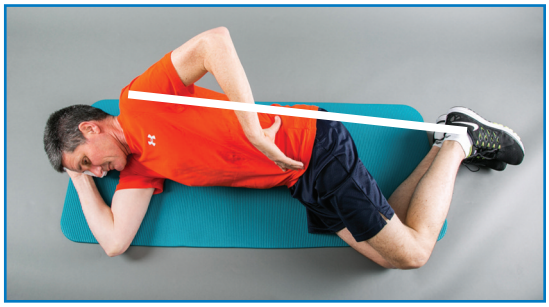

Arm out: Spread your arms out to the side and at an angle. While keeping arms in that position throughout, perform Level 1 bridge.

2-3x/week: 3 sets of 8-12 repetitions

HIP ROTATION – LEVEL 1

Goal: Strengthen the muscles of your hips, which help to stabilize you as you walk.

- Lie on your side with your head supported by a rolled towel or pillow.
- Bend your knees and your hips so that there is a straight line from your shoulders to hips to feet.
- Keeping your feet together and your trunk still, lift your top knee.
- Perform 8-12 repetitions.



2-3x/week: 3 sets of 8-12 repetitions

COMMON MISTAKES

DO NOT allow your hips to rotate back as you lift your knees. Your top hip should remain directly above your bottom one throughout the motion.

Ready for a challenge?

If you've mastered the basics, why not try the next level?

Level 2

Hands & knees: While on hands and knees, lift your knee in the same motion as Level 1 hip rotation exercise on the previous page. Only lift as far as you can without rotating or twisting your lower back.

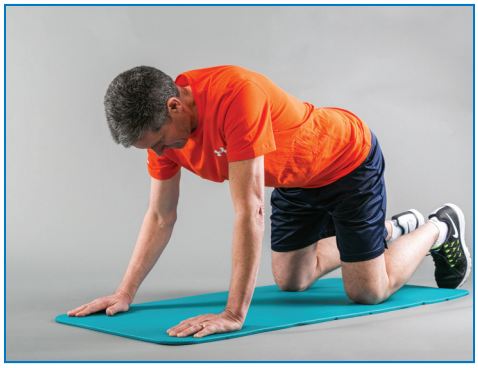
2-3x/week: 3 sets of 8-12 repetitions

DO NOT allow your spine to twist when you lift your leg. Keep your back straight.

TRUNK STABILIZATION – LEVEL 1

Goal: Strengthen the muscles in your trunk that support your spine and help you maintain upright posture.

- Kneel on the floor on your hands and knees. Keep your chin tucked and your gaze down.
- Keep your back in a neutral position (not arched or rounded). Take note of this position and how it feels. The goal of this exercise is to maintain this position throughout.
- Slowly raise and lower your left arm without allowing any motion in your trunk. Perform 10-20 repetitions.
- Repeat 10-20 repetitions on your right arm for one full set.

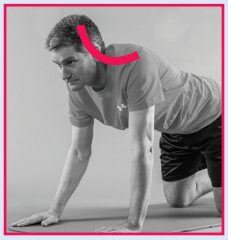


Note: You do not have to raise your arm completely. Only lift as far as you are able while keeping a straight back.

2-3x/week: 3 sets of 8-12 repetitions

COMMON MISTAKES

DO NOT look up or extend your neck.



DO NOT allow your shoulders or hips to rotate.

Ready for a challenge?

If you've mastered the basics, why not try the next level?

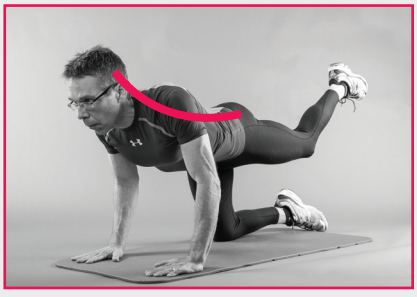
Level 2

One leg: Raise your left leg. Perform 10-20 times on the left side. Switch to the right side.

Level 3

Alternating legs: Alternate raising your left and right legs. Repeat 10-20 times.

DO NOT arch your back. As with the Level 1 exercise, only lift your leg as high as you can while maintaining a flat back.



PUSH-UP – LEVEL 1

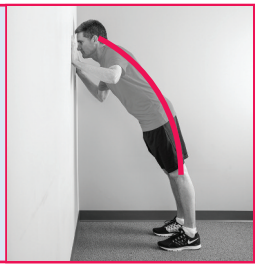
Goal: Strengthen your chest, arms, and trunk to help improve posture.

- Stand in front of a wall.
- Place hands in front of you in line with your shoulders, and slightly wider than shoulder distance apart.
- With chin tucked and while maintaining a straight line from your back through your legs, lower yourself down toward the wall and then push yourself back to the starting position.
- Perform 8-12 repetitions.

2-3x/week: 3 sets of 8-12 repetitions

COMMON MISTAKES

DO NOT bend forward at your hips or allow chin to lead head toward wall surface.



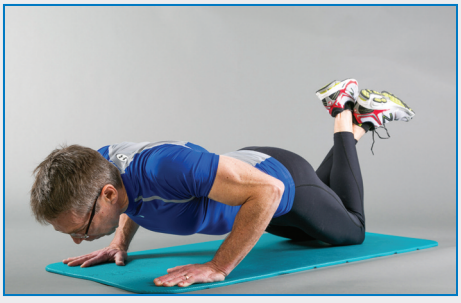
Ready for a challenge?

If you've mastered the basics, why not try the next level?

Level 2

Counter push-up: Place your hands in line with your shoulders on the edge of a counter or table. Use washcloths or towels to cushion hands as needed.

Level 3



Push-up on knees: Perform standard push-up with bent knees and your ankles crossed.

2-3x/week: 3 sets of 8-12 repetitions

HEEL RAISE – LEVEL 1

Goal: Strengthen the muscles in your legs that help you walk and climb stairs.

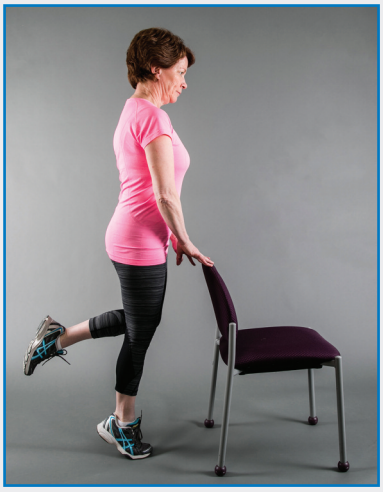
- Stand close to a wall and place your hands on the wall for balance.
- Raise yourself up onto your toes.
- Perform 8-12 repetitions with a full range of motion.

2-3x/week: 3 sets of 8-12 repetitions

Ready for a challenge?

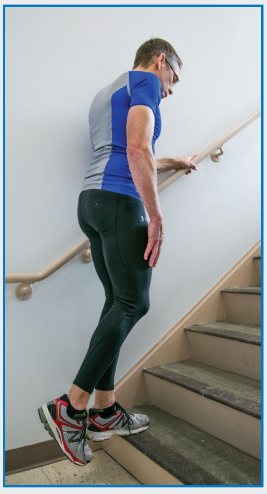
If you've mastered the basics, why not try the next level?

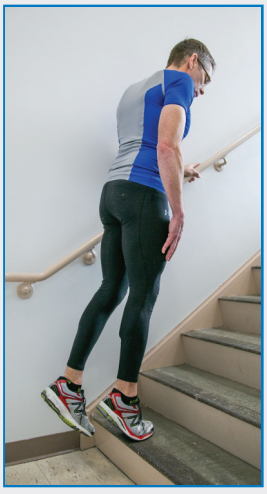
Level 2



Single leg on floor: Get into the starting position for a Level 1 heel raise. Bend one knee. Perform heel raise on one leg. Switch sides, and repeat.

Level 3





Single leg on the stairs: While holding onto a railing for balance, perform the heel raise on one leg on the edge of a stair. The stair allows you to increase the range of motion of the exercise by dropping your heel slightly lower than your toes.

2-3x/week: 3 sets of 8-12 repetitions

SECTION III: FLEXIBILITY EXERCISE

Flexibility exercises or stretching exercises are another important component of an exercise routine for people with PD. Two of the cardinal signs of PD, bradykinesia (slowness of movement) and rigidity (stiffness), can potentially put persons with PD at risk for losing muscle length or joint range of motion. This is because the stiffness may contribute to moving in smaller ranges during motions such as swinging your arm or taking smaller steps when walking. Stretching may also help reduce discomfort from stiffness and muscle spasms.

Types of Flexibility Exercises:

- Static self-stretch (see pages 25-28)
- Yoga
- Passive stretch (stretch is applied by another person)

Recommended Amount of Flexibility Exercise:

- Hold each stretch for 30-60 seconds and repeat 3-4 times.
- For most adults, stretching 2-3 times a week is recommended. However, people with Parkinson's may benefit from doing some stretching exercises every day.

Recommended Intensity of Flexibility Exercise:

- Do not bounce while you stretch; simply hold the position.
- Do not stretch to the point of pain.

STRETCHING TIPS!

- ***Do not hold your breath while stretching.***
- ***Stretching may be more effective if done after a muscle has been warmed up, such as after a walk.***

HIP FLEXOR STRETCH

Goal: Increase the range of motion of your hips to improve your posture.

- Stand in front of a chair and lower yourself down onto one knee. Use a pillow or folded towel to cushion your knee.
- While maintaining upright posture, shift your hips forward in a lunge until you feel a stretch in the **front of your back leg**. If you don't feel a stretch, take a bigger step forward with the front leg and tuck your hips under you.
- Hold for 30-60 seconds and switch to other side.
- Repeat 3-4 times.

2-3x/week: 3-4 sets of 30-60 second hold

COMMON MISTAKES

DO NOT arch your lower back.

TRUNK TWIST

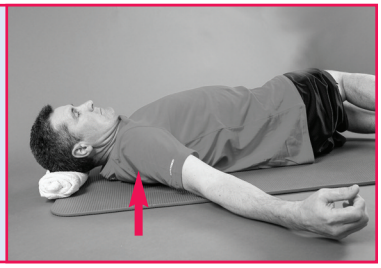
Goal: Increase the range of motion of your neck, trunk, and shoulders in order to improve your ability to move with greater ease during daily activities.

- Lie on your back with your knees bent and feet flat on the floor.
- Place your arms in "T" (out to the sides, palms facing up).
- Gently tuck your chin and turn your head to one side. Drop both legs down to the opposite side, while keeping your arms and shoulders on the mat.
- Hold this position for 30-60 seconds.
- Return knees and head slowly to upright position, and slowly repeat procedure in the opposite direction.
- Repeat 3-4 times.

2-3x/week: 3-4 sets of 30-60 second hold

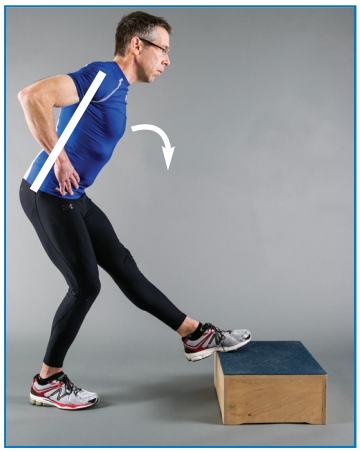
COMMON MISTAKES

DO NOT allow your arm and/or shoulder to lift up when you drop your legs.



HAMSTRING STEP STRETCH

Goal: Increase the flexibility of your hips, which may improve your ability to take bigger steps while walking.



- Stand on the bottom of a flight of stairs with a safe and secure railing. You may also use a small box or footstool.
- Place your foot on first step. Keep your knee straight and ankle relaxed.
- While maintaining a straight back, hinge forward slightly at the hips and bend your back knee until you feel a stretch in the back of the leg on the step.
- Hold 30-60 seconds and repeat on other side.
- Repeat 3-4 times.

2-3x/week: 3-4 sets of 30-60 second hold

COMMON MISTAKES

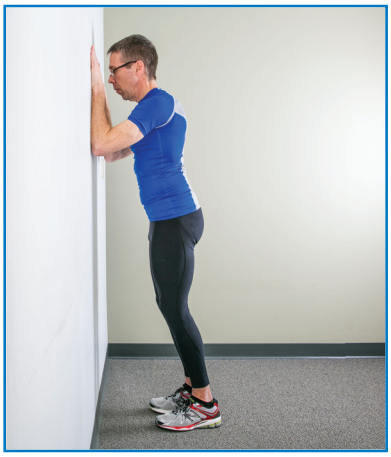
DO NOT round your back or slump your head.

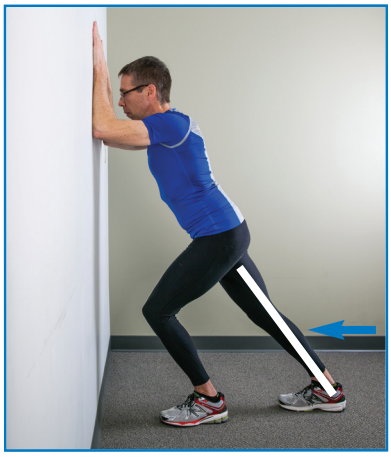
DO NOT reach for your toes with your hands.

CALF STRETCH

Goal: Increase the flexibility of your ankle to improve your ability to take bigger steps while walking and to transition from a sitting to standing position.

- Face a wall, rest your forearms on the wall, and take a large step back with one leg.
- Bend your front knee while keeping your back knee straight (in a lunge position).
- Push your back heel into the ground. You should feel a stretch in the back of your lower leg.
- Hold for 30-60 seconds and switch to the other leg.
- Repeat 3-4 times.





2-3x/week: 3-4 sets of 30-60 second hold

COMMON MISTAKES

DO NOT rotate heel. Both feet should be pointing directly at the wall.

DO NOT allow your rear heel to lift off the ground.

SECTION IV: BALANCE EXERCISE

It is common for people with PD to have some difficulty with their balance. Many of the exercises in this booklet can help improve balance by increasing strength and flexibility of the muscles in your legs and trunk.

However, if you have concerns regarding your balance (i.e., feeling unsteady and experiencing trips, near falls, or falls), a complete balance assessment with a physical therapist is recommended.

Types of Exercises to Improve Balance:

- Walking at a moderate intensity (see page 9-10)
- Strength exercises (see pages 11-23)
- Flexibility exercises (see pages 24-28)
- Tai chi or dance classes

Recommended Amount of Balance Exercises:

- Strength training can be done 2-3 times per week on non-consecutive days.
- Flexibility exercises can be done daily or at least 2-3 days per week.
- Walking at a moderate intensity in bouts of 10-30 minutes most days for 150 minutes total per week.
- Tai chi or dance can be done daily or 2-3 times per week.

Recommended Intensity of Balance Exercises:

- See Sections I, II, and III of this booklet for specific information regarding intensity of endurance, strength, and flexibility exercises.
- For other balance activities, we recommend that you consult with a physical therapist to help guide you in appropriate, safe, and challenging balance program.

Exercise Log		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Endurance Exercises								
Steps per day								
Other Physcial Activity								
Strength Exercises								
Squat	*2-3x/week: 3 sets of 8-12 repetitions*							
Bridge	*2-3x/week: 3 sets of 8-12 repetitions*							
Hip Rotation	*2-3x/week: 3 sets of 8-12 repetitions*							
Trunk Stabilization	*2-3x/week: 3 sets of 10-20 repetitions*							
Push-up	*2-3x/week: 3 sets of 8-12 repetitions*							
Heel Raise	*2-3x/week: 3 sets of 8-12 repetitions*							
Flexibility Exercises								
Hip Flexor Stretch	*2-3x/week: 3-4 sets of 30-60 second hold*							
Trunk Twist	*2-3x/week: 3-4 sets of 30-60 second hold*							
Hamstring Step Stretch	*2-3x/week: 3-4 sets of 30-60 second hold*							
Calf Stretch	*2-3x/week: 3-4 sets of 30-60 second hold*							
Balance Exercises								
How do you feel today?								

Exercise Log		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Endurance Exercises								
Steps per day		5765	5957	6209	6890	8209	9830	10345!
Other Physcial Activity				20 minute Swim		30 minute yardwork		
Strength Exercises								
Squat	*2-3x/week: 3 sets of 8-12 repetitions*	✓		✓				
Bridge	*2-3x/week: 3 sets of 8-12 repetitions*	✓		✓				
Hip Rotation	*2-3x/week: 3 sets of 8-12 repetitions*		✓		✓		✓	
Trunk Stabilization	*2-3x/week: 3 sets of 10-20 repetitions*		✓		✓		✓	
Push-up	*2-3x/week: 3 sets of 8-12 repetitions*			✓		✓		
Heel Raise	*2-3x/week: 3 sets of 8-12 repetitions*		✓		✓		✓	
Flexibility Exercises								
Hip Flexor Stretch	*2-3x/week: 3-4 sets of 30-60 second hold*			✓		✓		✓
Trunk Twist	*2-3x/week: 3-4 sets of 30-60 second hold*			✓		✓		✓
Hamstring Step Stretch	*2-3x/week: 3-4 sets of 30-60 second hold*		✓		✓		✓	
Calf Stretch	*2-3x/week: 3-4 sets of 30-60 second hold*		✓		✓		✓	
Balance Exercises								
Tai Chi Class		✓				✓		
Dance			✓		✓			
How do you feel today?		Great!	Good	Good	Good	Great!	Great!	Great!

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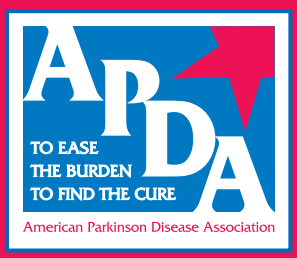

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