

IMPROVING BALANCE & PREVENTING FALLS

Parkinson's disease (PD) affects the parts of the brain controlling balance and coordination. As a result, balance and coordination adjustments that were once automatic now require conscious effort. Additionally, some drugs used to treat PD can lower blood pressure, causing a feeling of faintness when getting up from a sitting or lying position (called Orthostatic Hypotension). Difficulty with balance and/or low blood pressure can increase the risk of falling and bone fractures, both of which can be serious.

Evaluating fall risk

Falls can be caused by many factors, both relating to your physical health and fitness, and your environment. Some of the fall risk factors common in Parkinson's include:

- advanced or severe symptoms
- cognitive changes
- fatigue and sleep disorders
- freezing (particularly freezing of gait)
- depression, stress, and anxiety
- fear of falling
- medication use, and medication interactions (causing side effects or "off" periods)
- reduced leg strength, and trunk rigidity
- poor mobility, bradykinesia (slowness), and dyskinesia (involuntary movement)
- urinary incontinence and urgency (particularly at night, called nocturia)
- changes in posture, or postural instability
- acute illness
- difficulty turning, changing direction, backing up, and moving around obstacles
- home and community hazards

Although many of the factors above cannot be changed, it is possible to work on improving mobility and balance, and remove hazards from your environment to avoid falls. To determine your individual risk factors, contact your healthcare team or your local home and community care office to arrange an assessment with a physician, physiotherapist, occupational therapist, or other professional.

During a falls risk assessment, you may be asked to perform small tests, such as (PSBC, 2019):

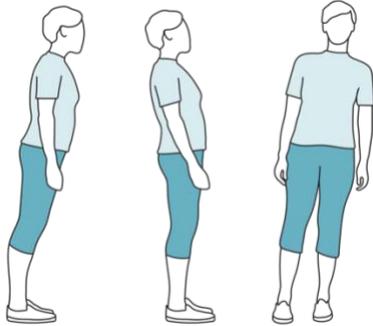
- multi-tasking, especially while walking
- mobility transfers (eg. getting into/out of a chair, getting into/out of bed)
- getting up and down from the floor
- maintaining balance when nudged in various directions
- turning in a small space
- picking objects up from the floor
- stepping backwards safely

Minimizing risk

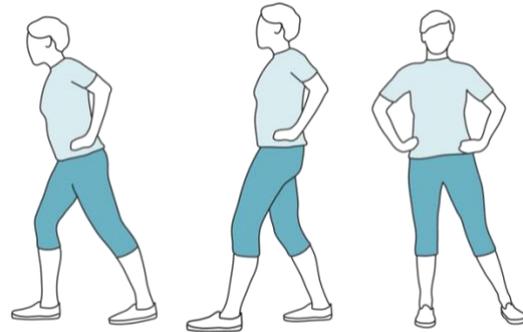
Here are a few suggestions on how to avoid falls and manage balance problems:

- Use cueing strategies to overcome freezing of gait (eg. music, or stepping over a line on the ground).
- See a clinical counsellor to discuss mental health concerns or fears of falling.
- Exercise to improve your mobility, leg strength, posture, agility, and walking.
- Speak to your healthcare team about incontinence and nocturia, or seek referral to a continence or pelvic floor therapy service.
- Have your blood pressure checked frequently to ensure it is not too low.
- Remove throw rugs and low-lying obstacles from pathways inside and outside your home.
- Avoid using stepladders and stools.
- If you feel you need a walking aid, speak to a physiotherapist before purchasing, as some aids may actually trigger falling.
- When walking, stand as straight as you can, and take big steps with your feet wider apart than normal.
- Wear comfortable shoes with good arch supports. If you shuffle, avoid shoes with rubber or crepe soles.
- Pay careful attention to changes in ground surfaces (eg. curb to pavement, or carpet to bare floor).

Some balance problems, like postural instability, can be more complex and require assessment by a physiotherapist. Exercises that may be prescribed for postural instability may be multidirectional swaying and stepping exercises.



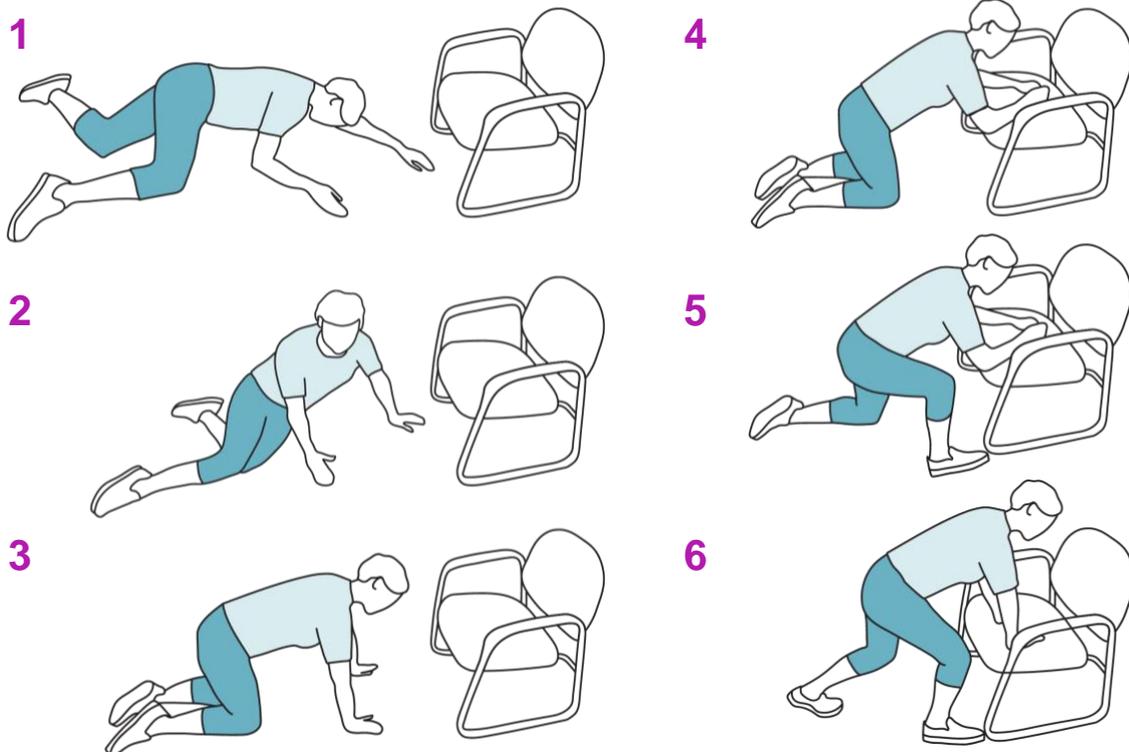
Forward, backward, and side sway



Forward, backward, and side stepping

Recovering from falls

If you fall, stay calm, and remain where you are. Take a moment to conduct a body scan (mentally scan and feel from head to toe) to see if you are hurt anywhere. If you are hurt, do not move, and call for help. If you are not hurt, then you can try getting up from the floor using the technique below, with help from a chair or something else sturdy. Only do this if you are sure you are not hurt and can get up by yourself. If you need help getting up from the floor, do not attempt this without assistance, as you could fall again.



If you need assistance getting up from the floor, or there is nothing sturdy to hold on to (e.g. if you are outside and unable to crawl to a bench or a building wall), you can use the same techniques as above, performing steps 4 through 6 with a person in place of a chair, given that the person assisting feels they are able to do so.



If you can't get up

If you are injured, try not to move. If you live alone, or do not expect anyone to find you on the ground, you can call for help by banging an object against the ground or wall to alert neighbours, or crawl to a phone to call 911.

If you cannot get up, but are not injured, or you expect someone who can help you to arrive soon, use the techniques below to keep yourself safe until help arrives:

- Keep yourself as comfortable as possible on the floor. You may need to roll or move around to relieve pressure from areas that may be getting sore.
- While you are lying down, move your ankles up and down by flexing and pointing your toes frequently to keep the blood flowing in your legs.
- Make sure to keep warm. Use blankets, tablecloths, towels, or anything you can crawl or roll towards and pull on top of yourself.

How to improve balance

There are many reasons why someone's balance may be impaired. It is not just a strength or reaction time issue; there are many functions and parts of the body that work together to control our balance. Weight-shifting activities, in addition to good posture, tend to help improve agility and reduce the number of falls. Examples of weight-shifting activities may include exercises such as forward stepping, side stepping, and backward stepping practice. For an individualized treatment plan, talk to a physiotherapist.

Balance and good posture can work together to improve your activities of daily living. When your body is correctly aligned, movement is more efficient and stable. To establish good posture:

1. Stand with your back against a wall, your feet flat on the floor, and your heels approximately 3-4 inches or less from the wall.
2. Hold your head erect, chin parallel to the floor, and your vision focused on a target at eye level.
3. Relax the arms and shoulders.
4. The buttocks, shoulder blades, and, if possible, the back of the head should be touching the wall. Focus on keeping chin parallel with the floor and eyes on a target.
5. Evenly distribute weight throughout feet, front to back, and side to side.
6. Pull your abdominals in, and lift your chest.
7. Hold position for 15 to 30 seconds, and then relax.
8. Repeat the above directions 2-3 more times.

Additional Resources

Balance Exercises for Parkinson's Video Series | <http://bit.ly/balanceexercises>

Exercise Helpsheet | <https://bit.ly/pdexercise>

In-Home Safety Check Helpsheet | <https://bit.ly/pdhomesafetycheck>

Stay on Your Feet Booklet | <https://bit.ly/pdstayonyourfeet>

Sources

Parkinson Society British Columbia (2019) Naomi Casiro Discusses Balance & Falling in Parkinson's. Viewpoints Fall 2019. Retrieved from: <https://bit.ly/vptsbalancefalling>

This helpsheet was reviewed by Shelly Yu, Parkinson's physiotherapist.