



A Parkinson's specific exercise programme

AN EXERCISE GUIDE FOR PEOPLE LIVING WITH PARKINSON'S

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Melissa McConaghy, FACP, a Specialist Neurological Physio and Fellow of the Australian College of Physiotherapists. Melissa holds a Master of Health Science in Neurological Physiotherapy and a Grad. Certificate in Public Health.

Tammy Ramsey-Evans, Director of Clinical Services for Parkinson's NZ. Tammy is a registered nurse and holds a Master in Public Health.

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A full list of references is available at <https://www.parkinsons.org.nz>

Your body has the capacity to get stronger, more powerful and more agile to off-set poor balance and freezing, even in the face of Parkinson's.

Before starting any of these exercises please consider getting a Health Professional or GP medical clearance.

What is Parkinson's?

Parkinson's is a progressive neurological condition that is life changing.

Parkinson's is caused by the loss or degeneration of nerves cells that produce dopamine in the brain. When 80% of dopamine is lost, the symptoms of Parkinson's occur. The loss of dopamine – containing cells affects the body's ability to control movements. Not everyone will experience the same symptoms and the condition affects everyone differently.

Some symptoms people with Parkinson's can experience include:

- Shakiness or trembling in the hands, arms, legs, jaw and face; often referred to as tremor
- Stiffness or rigidity – where muscles become tight and stiff
- Slowness of movement such as difficulty initiating movements like getting up from a chair. Your doctor may refer to this as bradykinesia or akinesia
- Problems with balance and coordination or postural instability.

The average age of diagnosis is 59-years-old.

Although there is currently no cure, treatment is available.

Who is this booklet for?

Parkinson's New Zealand has produced this booklet so that people with Parkinson's can have information about Parkinson's specific exercises. A Parkinson's specific exercise programme consists of exercises that are based on movements that can help to improve your symptoms. This booklet contains information about different symptoms and stages of Parkinson's and various components of training to build your ability, aerobic capacity, strength, flexibility, balance and dual tasking capacity. Parkinson's specific exercises can be commenced at any stage of your Parkinson's journey and can be modified to suit your specific needs. The exercises and information are drawn from current evidence using a neuroplastic approach. You'll find various exercises with photos in this booklet and short video clips on our website <https://www.parkinsons.org.nz> to help you practice the correct technique.

What does a Parkinson's specific exercise programme mean?

It's important to practice Parkinson's specific exercises rather than general exercise training to improve movement because of the type of brain stimulation each type of exercise produces.

Your brain has the ability to help you move better. It learns from all stimulation applied to it, including exercise, and has enormous capacity to re-wire the neural connections for improved movement. You may not have noticed, but, getting off a low chair, rolling in bed and picking up a cup of water all require infinite amounts of fine tuning as your brain prepares, conducts and evaluates the task. Your brain is receiving constant feedback about the environment (height of your chair, hardness of a bed, weight of the cup) so that it can move with the appropriate amount of speed, power and accuracy to be effective and efficient.

Dopamine deficiency can lead to continuing reduction of movement, speed and power. Instead of getting up from the chair first time round, it may mean that you have to use your arms to push up, or rock back and forth a bit to get enough momentum to stand up.

Training to improve difficulties in your movement specifically is important because it will help you with all of your everyday activities, not just while you are exercising, but throughout the day – every time you put your arm through a shirt, open a heavy door, walk up a step for instance. These exercises focus on the amount of effort and size you are putting in to your movement.

Parkinson's specific exercise will teach you how to move with amplitude, power and speed in everyday tasks so that you can get back to doing the things you enjoy doing. By increasing your overall activity level, Parkinson's specific exercise can also slow down the symptom progression of your Parkinson's.

EFFORT LEVELS – INTENSITY IS NOT NEGOTIABLE

Intensity in the context of Parkinson's can mean many things. In the early stages of the condition, it can focus on fitness training. In the moderate and more advanced stages, intensity may refer more to increased task specific effort through exercise.

Intensity is important because neuroscience research is showing us that the higher the level of intensity in exercise the better the release of neurotrophic factors in your brain. It is these neurotrophic factors such as Brain Derived Neurotrophic Factor (BDNF) and Glial Derived Neurotrophic Factors, (GDNF), that are proving to be very interesting to researchers as they are uncovering ways to protect cells and possibly slow or stop their destruction in the brain.

EXERCISE FREQUENCY

Frequency of exercise can change depending on the demands of your programme. As a rough guide, if you are doing any form of strength training, you need two days between sessions in order to let your muscles recover. Any more than 4 sessions a week can typically lead to a reduction in your strength gains. If you are exercising for cardiovascular fitness, most of the research suggests that you will not gain anything extra from more than four sessions a week.

If you are exercising to improve your bradykinesia, stiffness, tremor or agility, then you need to be exercising every day to improve your balance and movement.

The reason it is so important to train daily if you are learning/re-learning to move better, is precisely because of the plasticity of your neural circuits. To achieve skill acquisition, you need to train **regularly**, you need to train **intensively**, you need to train in a **variety of environments** and you need to train **specific** to the task you want to improve. If you want to acquire or re-learn a movement skill you need to do your exercises every day, and under the right learning parameters.

Benefits of exercise and medication

In the last few years the importance of exercise has become even more significant for people with Parkinson's. Research is showing that a tailored Parkinson's specific exercise programme is important for your health. This means that alongside medication, the right kind of exercise can improve your overall physical ability, your symptoms and the quality of your life. Exercise helps to slow symptom progression as well as to maintain general health and ward off concurrent cardio-vascular risk factors, metabolic conditions, frailty and falls.

Appropriate dosing of medication is crucial in the management of Parkinson's long-term. However, medication only is not enough to give you the best quality of life possible. Despite medication, your body will continue to adjust over time – your body starts to move less – producing smaller, slower movements, which becomes your new 'normal'. This learned non-use and re-sizing of your movements is best described with this analogy: think about what happens when you take your foot off your car's accelerator pedal. It slows down. The fuel is no longer driving the engine forward. It's the same when your body learns to move with smaller movements. In the early stages of Parkinson's, more often than not, you can still achieve movements that look 'normal', but your brain has already begun learning to take your foot off the accelerator (with or without medication). To a point, medication will improve your movements, but it will not teach you to put your foot back down on the accelerator pedal.

Exercise can provide the vehicle to teach you how to achieve functional and efficient movement again, even if you have to work harder through the movement to achieve it. Parkinson's medication, among other things primarily is used to enhance, replace or simulate the missing dopamine in your system. This can have very good effects on your movement, and to some extent your mood, overall. It is important that your medication is optimised for your needs as well. This often requires regular updates with your doctor to ensure you are functioning at your best.

The best approach to managing your Parkinson's with exercise is to target your symptoms appropriately and to be optimally medicated.

Types of exercise which are important for people with Parkinson's

- **Aerobic training** – is also called endurance training, cardiovascular training, or fitness training. All these terms mean the same thing. In short, aerobic training consists of exercises that use your large muscle groups, like your legs, that will increase heart rate for an extended period of time. Aerobic training includes exercises such as walking, swimming, cycling, and dancing. It can also include activities such as stair climbing, gardening, and pushing the lawn mower.
- **Strength training** – it is not uncommon if you have Parkinson's to report weakness as a symptom. Some people with Parkinson's may not be strong enough to move their own body weight. This is problematic as balance and strength correlate highly and therefore weakness not only poses a risk of falls, it can also reduce your confidence. Strength training is vital in restoring your independence. Strength training activities in this booklet consist of using your own body weight to increase your muscle strength.
- **Flexibility training** – is helpful if you experience rigidity and stiffness and find yourself stooping forward at the hips, or find it difficult to reach up and bend down. These exercises may assist in maintaining muscle length and range while you build the strength to support your posture and range of movement.
- **Balance training** – is important to help reduce your risk of falls. It is not uncommon as symptoms progress to experience changes in your postural stability that make falls more likely. Freezing of gait, lack of weight shifting, poor foot clearance and difficulty turning can become significant risk factors when your balance is compromised.
- **Amplitude training** – helps re-train the normal scale of movement to improve your daily activities and independence. This is commonly used with people who struggle with slow and small movements. Learning how to exaggerate your movements helps to re-calibrate what 'normal' and efficient movement should look and feel like.
- **Intensity training** – is interchangeable with high effort exercise. This type of training is most important for people who are tremor dominant and need to increase overall motor output to improve function and efficiency.
- **Dual tasking capacity** – describes the ability to do more than one thing at the same time. In Parkinson's this can be difficult as some of the automaticity of movements can be impaired. This impacts on many daily activities such as the inability to walk safely while having a conversation.

Stages of Parkinson's

What your primary presentation or stage of Parkinson's is helps you to tailor your exercise programme to your unique needs.

To determine if you are in the early, moderate or later stages of the condition you can use these broad guidelines. The stages do not relate to time since diagnosis, more to the presentation of your symptoms and how they impact on your daily activities, function and cognition.

Early stages – At this stage you're functioning well and are independent in all daily tasks like dressing, grooming, meal preparation, domestic chores and vocation. You've had no falls in the past twelve months, do not experience freezing of gait and have mild or no cognitive impairments.

Even in the very mild stages of Parkinson's you may have already started to adapt your life; subconsciously avoiding social activities, modifying the clothes you wear to avoid doing up buttons and zips, changing what you order in restaurants and other subtle changes you may not have realised you were doing. Without specific exercises, you may continue to give up the things you enjoy.

It is very important if you are in the early stage of the condition to start establishing a regular exercise routine that is targeted to improve your Parkinson's symptoms. Getting started early in the Parkinson's journey will not only help you to keep active, fit and mobile, it will also help you to keep doing the things you like doing for longer.

Moderate stages – At this stage you're independent for most tasks. You've had at least one fall or significant near miss in the past twelve months. You also may experience freezing of gait and have mild cognitive impairments.

If you consider yourself in the early/moderate stages and are starting an exercise programme for the first time, then a general programme to get you active and fit will be sufficient in the short term.

If you are already fit and exercise regularly you may want to consider exploring a more targeted and Parkinson's specific approach to your exercise. Your programme at this stage needs to be both physically and cognitively challenging and may favour dual task training and some agility training.

Advanced Stage – Here you are dependent for most daily tasks, fall more than once per year, experience freezing of gait and have mild to moderate cognitive impairments.

Being in the later stages of Parkinson's does not mean that an exercise programme is not relevant. Building strength, mobility, preventing falls, improving independence and confidence can go a long way to improving your overall quality of life and general levels of comfort.

Identifying what type of Parkinson's you have

Knowing what type of Parkinson's you have is also important in helping you to focus on the correct aspects of each exercise to make sure you get the most from them.

The three different types of Parkinson's that will define your exercise programme are:

Bradykinesia – this means that slow and small movements are the dominant feature of your Parkinson's and bother you the most in your daily activities. The reason why you experience bradykinesia is due to the loss of dopamine in your brain, specifically in the basal ganglia. As dopamine is an important neurotransmitter, the loss of it leads to 'poverty of movement' where the regulation of normal movement size is varied down and smaller than required for efficient movement. It is important to focus on exaggerated and large movements in your exercise programme.

If you are bradykinetic your exercise programme needs to focus on exaggerated movements and power.

Part of your exercise programme needs to help you to re-adjust what normal movement should look and feel like. It will certainly feel strange when you first start to exaggerate your movements, but in time and with practice, you will find that the exaggeration really helps with daily tasks, walking, arm swing and other movements that might be impaired.

Tremor Dominant – This means that the tremor is the most dominant feature of your Parkinson's. The tremor can come on at rest or during prolonged or sustained postures.

If you are tremor dominant, medication can have a variable effect on managing the tremor. While the mechanisms that result in tremor are not fully understood, what we do know is that a tremor dominant presentation typically represents a slower progression of

the condition and less impact from other concurrent features of the condition, including rigidity and dementia. As your condition progresses, your symptoms can change to one of a non-tremor dominant pathway as the dopamine deficiency increases. Parkinson's specific exercise can help to reduce and slow down this symptom progression.

If you are tremor dominant, you will need to focus on the effort and forced use component of the exercise. You will need to work up to 80% to get the best results.

Agility impaired – This means that you have had a least one fall in the past 12 months or several 'near misses' in the past three months. One fall or more in twelve months can reduce your confidence and subsequent mobility. It is important to look at how to reduce your risk of falls. Falls can be a significant problem and typically represent a postural instability coupled with or without freezing and often with difficulty doing more than one task at the same time. It is not uncommon to start feeling like your reaction times and agility are less than adequate for getting around doing everyday tasks safely. More often than not, postural instability is related to difficulty distributing your weight from one leg to the other effectively and is often exacerbated by lower limb weakness, stiffness in your limbs and trunk, freezing of gait and often cognitive changes.

Counter-acting your risk of falls takes effort, targeted falls prevention exercise and lots of practice.

If you are agility impaired, you will need to focus on the weight shifting and postural stability components of each exercise. Use a chair or wall for support and then move to hovering with finger tips as you improve.

It is likely that if you are bradykinetic or tremor dominant you may become agility impaired as the condition progresses. You can always tailor the exercises to best match your current presentation.

Exercise preparation

ASSESSMENT GUIDE

In any rehabilitation practice, health professionals use tests known as “Outcome Measures” to acquire baseline scores or information. They will then re-assess these standardised tests over a period of time to track your progress and to assess whether or not certain interventions such as exercise or medication are having a positive effect.

There are several questionnaires you can do independently to assist in a self-assessment. Here are some links to questionnaires that you can complete on your own (Please note there may be a cost to accessing these questionnaires):

FES: <https://www.neura.edu.au/apps/iconfes/>

IPEQ: <https://www.neura.edu.au/apps/ipeq/>

SPPDS: <https://davisphinneyfoundation.org/parkinsons-worksheets/>

It is recommended that you repeat these questionnaires every 6 months or if you feel any changes to your physical condition. Regular reviews will also help you to keep evaluating your goals.

EXERCISE PRESCRIPTION

A good exercise programme should be unique to you, your needs and your goals. After knowing what stage and type of Parkinson's you have, the next step is to understand your goals and your current functional baseline. With all this information pulled together you can then create an exercise programme that is tailored to you.

A good exercise prescription will include information about the following:

- Equipment required
- Relevant Exercises – normally 3 to 4 targeted exercises
- Number of repetitions and sets of each exercise
- Evaluation or recording method
- Precautions and safety measures
- Modifications required

How to stay motivated

MAKE EXERCISE A REGULAR PART OF YOUR DAY

Set a consistent time to exercise every day. Keep it the same time so that you know how it works in around your medication and is timed when you are typically feeling at your best.

If you are really busy, you might find breaking your programme down into several manageable 10-minute chunks suits you better. There is good evidence to show that this is still effective to receive a cardiovascular and strength training. For amplitude and motor output training this is sufficient as well. Perhaps you might schedule a few exercises for when you wake up in the morning, another round at mid-morning, lunch, mid-afternoon, and then evening. See what works best for you with your lifestyle and medication schedule, but make sure you plan it, do it and record it.

If you are particularly short of time, avoid the temptation to throw in the towel completely. Do what you have time to do. Something is better than nothing at all. Even five minutes of targeted exercises done well can yield results when done consistently.

STAY MOTIVATED WITH GOAL SETTING

Planning your goals is essential. As well as providing a structure, setting goals can be exciting. Goals inspire self-confidence when achieved, especially when short-term achievements are linked to longer term goals and the 'big picture'. Write your goals down and review them regularly. Post your goals up somewhere obvious where you will see them every day and remember to celebrate whenever you achieve a goal.

START RECORDING AND CHARTING IN YOUR DIARY

Record each of your sessions in the back of this booklet. Even if it is only a 10-minute session. It is important that you can add up the total number of minutes spent exercising at the end of each week.

Start by aiming to complete at least 10 minutes of good quality exercise each day. This may be from the exercises in this booklet or it may also include your daily walk, session at the gym or a yoga class. What is important though is that you are doing Parkinson's specific exercises specifically targeting your symptoms and the tasks you want to improve.

WORKOUT WITH A BUDDY

If you have a commitment to exercise with a 'buddy' you are more likely to make the effort, no matter how tired you feel. There are always a thousand excuses not to exercise but having a buddy will help you be accountable and consistent knowing someone is counting on you, rather than cancelling and letting someone down.

A buddy can also provide additional encouragement, particularly when you achieve a goal. They can push you that little bit harder and make exercising more fun. If you dread exercise, it is important you find a buddy to help you stick with it. If you can't find a 'buddy' then seek out an appropriate exercise 'group'. It is a great way to socialise with all the physical and mental benefits. Having a buddy is certainly not a deal breaker and will not stop you from being successful, it might just make it easier getting there.

BUILDING A STRONG FOUNDATION

With a small amount of initial discipline, you can create an exercise habit that requires little effort to maintain but will reap huge rewards in how you move, think and feel with your Parkinson's. Here are some tips for creating your Parkinson's specific exercise habit.

- ***Commit to the first 21 Days*** – This is all you need to make a habit automatic. If you can make it through the initial conditioning phase, it becomes much easier to sustain.
- ***Make it Daily*** – Consistency is critical if you want to make a habit stick. Do your Parkinson's specific exercise programme every day! Activities you do once every few days are trickier to lock in as habits.
- ***Start Simple*** – Set yourself up for success and start with 10 minutes each day and build up!
- ***Form a Trigger*** – A trigger is a ritual you use right before executing your habit. Perhaps it is getting out of bed, having breakfast, talking the dog for a walk, dropping the kids at school, watching TV at night? What do you do each day that can act as a trigger to make exercise a habit for you?
- ***Be accountable*** – Record your exercise session or find someone who will be your buddy. This helps to keep yourself motivated and accountable if you feel like quitting.
- ***Use "But"*** – If you are struggling with an exercise use the word "but" to interrupt the negative thought. "I'm no good at this, but, if I work at it I will get better."

Parkinson's specific exercise guidelines

- It is important that you walk yourself through each exercise first to make sure you understand the movement. As with any exercise programme, it is unlikely, but possible that you can injure your muscles by ending a movement without enough control. Keep your movements controlled and focused as you slowly build up your effort level.
- If you have had an injury in the past or have one now, bare this in mind when you start with each new exercise and modify accordingly.
- When working your way through the exercises, be mindful of your capacity, not your confidence to maintain balance through some of the more challenging activities. Always aim to exercise with a wall or table on one side with the sturdy chair on the other, just in case you do lose your balance. Having a buddy with you is also a great way to have some additional support.
- When following a neuroplastic exercise programme, the focus is about quality of movement, not just quantity, so don't fall into the trap of just going through the motions. Once you are up to speed with the choreography, make each repetition count.
- Be sure to tailor the exercise to your needs; stage of Parkinson's and type of Parkinson's. The way you do the exercise will be slightly different to the next person and it is these nuances that can take the exercise you do from good to great!
- Once you get started with the first exercise, try to keep doing and building on your exercises every day. Perhaps commit to a time frame of 6, 8 or 10 weeks. You will need long enough to build in strong exercise habits and routines. Frequency and intensity are essential components for driving the re-wiring that occurs in your brain to improve your movements.
- It is recommended that when you are fully confident with the exercises, you are doing between 3 to 5 exercises each day. Aim for 3 sets of each exercise and 12 'good' repetitions of each set.

Frequently asked exercise questions

If one part of my body needs more attention what should I do?

If you have noticed more symptoms in one particular arm or leg, you may wish to focus on that limb more intensively during each exercise station. Make sure that the particular limb you are focusing on is leading the exercise in effort and amplitude and that you have symmetry between both sides. You may also wish to double the repetitions on that side, especially if there is a marked difference from one side to the other.

How do I avoid injuring myself?

It is really important that you warm up first and follow the instructions for each exercise to avoid injury. If you are just starting out, be gentle on yourself, especially if you are new to exercise or don't exercise regularly. As you become more confident with the exercises you can start to work towards an effort level of 80% and full range of movement – weight shift and amplitude. If anything hurts while you are doing the exercises or you feel unbalanced stop immediately. All of the exercises can be modified to be made easier as well as harder so listen to your body.

What about my medication. Is there a better time to do the exercises?

Do you notice improvements in your mobility when you have taken your medication? If so, then it is recommended that you try and time doing your exercises when you are at your best, about 40- 60 minutes after taking your medication, when you are 'on'. It is not a good idea to do your exercises when you are 'off'. As well as being frustrating, it may also increase your risk of hurting yourself and it also reduces the training effect you can achieve from the exercises.

What Clothing & Footwear Should I Wear?

Wear loose, comfortable clothing that breathes well. Layers may help if you have extremes of temperature where you train or are prone to overheating. Your footwear needs to be supportive such as trainers or walking shoes.

Before starting any of these exercises please consider getting a Health Professional or GP medical clearance.

Safety

To ensure your safety, it is best to consider the following checklist before starting.

- DO** get a Health Professional or GP medical clearance
- DO** exercise when 'ON' and moving at your best
- DO** stop working out if you feel pain, dizziness or any other adverse event. Seek health professional advice as soon as possible if any symptoms occur
- DO** warm up, work at your own pace and work up to higher effort levels over time to minimise injury and falls
- DO** schedule a consistent time to exercise every day to ensure exercise receives priority
- DO** be clear on your exercise goals to keep you focused
- DO** clear the exercise area for clutter and trip hazards
- DO** ensure you have good lighting and ventilation
- DO** prepare any equipment required before you start exercising
- DO** engage a buddy where possible to assist with set up, safety and motivation
- DO** wear layered clothing that is easy to remove as you warm up
- DO** ensure you are well hydrated and take drink breaks when exercising
- DON'T** start exercising without advice from a health professional if you have an existing medical condition outside of Parkinson's
- DON'T** exercise when you are 'OFF'. This will significantly increase your risk of falls and injury
- DON'T** exercise if you feel poorly, dizzy or are experiencing any pain
- DON'T** exercise beyond your limits. It is important to work hard but if you start too hard you risk injury or burnout.

Falls prevention

To reduce your risk of falls, it is important to discuss and manage any medical or medication-induced dizziness first. It is worth looking to minimise other risks that can come from your environment (clutter, trip hazards, pets) and exercise set-up (not having wall, chair, bench support to hand if you do lose your balance). In the event that you do fall and providing you have not injured yourself, it is worth knowing how to get up off the floor yourself. Practice 'How to get up off the floor', before it happens, to boost your confidence, strength and skill in maintaining your independence.

How to get up off the floor

- Check that you are not injured
- Roll onto your side or fully onto your stomach if you can
- Push through your upper body and bring your knees up so you are in a four-point kneeling position
- Move to a chair or stable base that will support your weight
- Push through the chair, bring one foot forward and drive up with that leg into a standing position. Be aware of any dizziness that an upright position may bring on
- Sit down as soon as possible and assess your body for any further injury



How to get down to the floor

- Face a sturdy chair and have a pillow or soft cushion on the floor for your knees
- Gently place a knee on the cushion and use your arms and standing leg to lower your weight onto your knee
- Move your other foot back so both knees are on the cushion
- Reverse to stand up

Core exercises

Before getting started familiarise yourself with the exercises. You can also watch the exercises online at <https://www.parkinsons.org.nz>

Remember to warm up

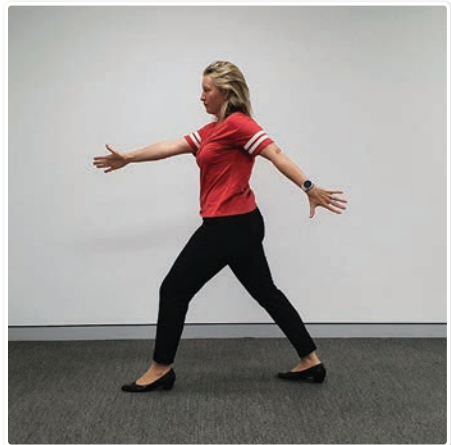
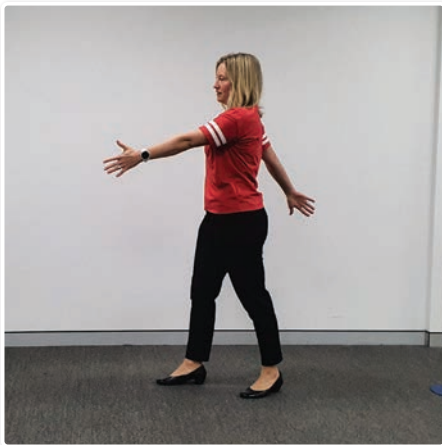
The warm up is important not only to get your muscles primed for exercise, but also to get your head in the right space and to avoid injury. During the warm up you should start to feel warm in your muscles and your breath should be slightly laboured. Using large muscle groups such as your legs, upper back and arm muscles will help. Start slowly trying to increase the effort level as you work your way through the warm up.

Depending on your level of mobility, suggestions for doing a solid warm up include going for a brisk walk around the house or block, boxing in sitting or standing, climbing a couple of flights of stairs or peddling on an exercise bike for 5 minutes.

GAIT TRAINING

Practicing your walking is very important if you have started to shuffle, trip, lose your confidence, or simply if you have lost your arm swing. The aim of this exercise will really depend on what your primary gait issue is but you can modify the exercise to your needs.

Arm swing



Mark out a runway space in your home. This could be along a corridor or length of living room floor. If you have concerns about your balance it is best that you have a wall or stable

surface on one side. Identify two markers at either end of your runway. Walk from one marker to the other and count the number of steps it takes to cover the distance. If it is 10 steps, then this becomes your baseline. If you have noticed that your arm or arms do not swing while you walk, practice actively swinging the opposite arm and leg while you walk. Be sure to swing your arm through full range behind you as well as in front while walking across the runway.

Shuffling gait

If shuffling gait is your concern, aim to reduce your step count over across the distance by at least 10% consistently.

Foot clearance

If tripping is your concern, aim to increase your step height while walking across the runway. You could put small objects in the way that you have to step over. Tissue boxes, folded card or something that does not create a trip hazard if you mis-step are recommended.

SIT TO STAND



Having sufficient strength and power in your legs to enable you to get out of a chair is very important for independence and function. The average adult stands from sitting about 90 times per day and rarely for the sake of just standing up. Normally people stand up to go somewhere. For this reason, this sit to stand exercise is designed first to build your strength to reduce the reliance on your arms and the second part is to bring in some stepping practice.

Start standing facing away from a sturdy chair. Slowly lower yourself until you are sitting lightly on the chair. Keep your weight through your heels and the descent controlled

throughout. If you can't get all the way to the chair, go as low as you can before you lose control and then come back up again. Repeat this activity.

Once you can get down to the chair and up again without using your hands you can progress to the next level. For this you may need to practice facing a table or kitchen bench for additional support.

Place two cups on the floor about a step length in front of you. On rising from the chair, when standing tall, tap lightly on the cup directly in front of your right foot before returning your foot back to the starting place. If you need balance support to do this, lightly hold on to the bench in front of you. As your strength and balance improve, you can progress to hover your hands over the bench as you stand and tap with alternating feet.

FINE MOTOR CONTROL



Difficulties with fine motor control is typically because of bradykinesia in the hands and changes in the ability to stretch your fingers and wrist out fully. Functional examples of this might be trouble with writing, cutting up food, turning the pages of a newspaper, typing, facial grooming like shaving or applying make-up or doing up buttons or shoelaces

This exercise is best done before and during a burst of fine motor activity.

Standing or seated, clench your fists together in both hands and then explosively open your hands out in front of you as wide as you can. Be sure to splay your fingers wide and open your hand as much as you can. Imagine you are flicking something sticky off your fingers if you are struggling to get the concept. While your fingers are fully stretched, try and stretch them another 10% and hold another second before returning to a clench. Part

two of the exercise is then to touch opposing fingers fully and accurately as fast as you can from index to little finger and back again, returning each finger to full extension after each touch. Alternate and repeat the flick and touch on both sides.

BALANCE TRAINING

In Parkinson's, balance is significantly impaired when the interference of sensory, motor and cognitive systems reaches a threshold that can no longer be compensated for. As Parkinson's progresses, the compromise of all three systems results in an inability to anticipate or recover from instability. It is also well known that the ability to do a demanding cognitive task while simultaneously walking or carrying something can be considerably impaired at this stage.

If you feel that your confidence in balance is low, you have experienced a 'near miss' or fall in the last twelve months you may want to get your balance tested. Please see your health professional who can get an accurate measure of your functional balance. Trying to do this exercise independently can be unsafe or inaccurate if you have poor balance.

Given the lack of weight shift from one leg to another in walking, turning, freezing of gait and such, this exercise will focus on the shift of weight as well as a varied speed response to assist with agility of the movement. It can be helpful to use an auditory cueing strategy for this exercise such as a song with 60 beats per minute or less, or use of a metronome app to keep you in time.

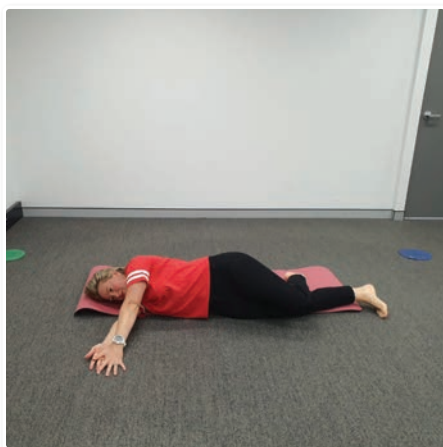
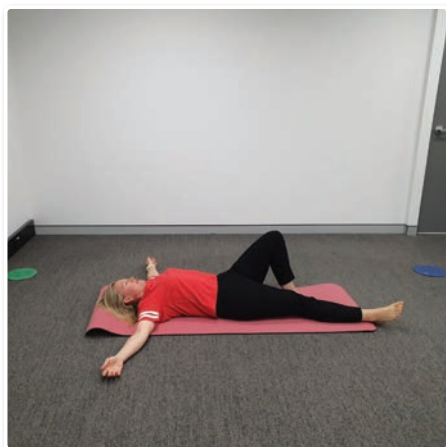
Start with a solid chair positioned near a corner (wall or kitchen bench). Use your hands to hold on to the chair as much as you need to until you feel confident to stand tall and hover your hands on the chair or to let go completely.



Stand behind the chair and take a wide step sideways to clear the back of the chair and so you are facing up the side of the chair. You are going to step around the chair following a box shape. Continue to alternate steps as you track around the chair, always facing to the front so you are challenging stepping in all directions and with weight shifting. Once you complete the box. Repeat the exercise but going in the other direction.

Progress this exercise by taking bigger steps, removing your hands from the chair or leaping if you are really confident. Stay standing tall at all times though.

ROLLING IN BED



If you have trouble with rolling in bed, consider what the issues might be. It is likely a combination of the following: scale in your movements, strength in your legs, bottom, and arms, or lack of targeted effort in the movement to turn.

This exercise is best started on a firm surface. If you can get down and up off the floor, this is a good place to practice.

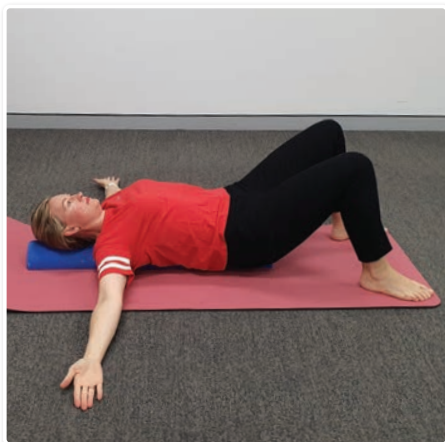
Start with lying on your back. Bend your right knee up and have both arms stretched out directly from your side. Look to your left side and with power and effort, keeping your left hand on the floor, bring your right hand over to clap your hands together on the left. You will need to push through the heel of your left foot to complete this move.

Once successful, with strong effort and scale of movement, return yourself to the centre starting point and repeat to the other side.

To progress this exercise, combine the turn with a single leg bridge from the bent leg. Rolling in bed requires hip and bottom strength. Lift your bottom off the floor as you turn to remain in the same spot on the floor during the exercise.

Once this is mastered, move to your bed and practice on the softer surface and then progress to having the bed clothes over you as well as you practice.

LOG ROLL



You need to take this stretch slowly as it can be quite intense the first few times. You also need to be able to get up and down off the floor independently. If you have problems getting onto or off the floor you could try this on the bed. You will need a half foam roller for this exercise. If you don't have one, you can use a large towel rolled several times.

Place your foam roller on the floor and lower yourself so that you are sitting on one end of the foam roller. Gently roll your spine down so that you are lying on the foam roller and it is along the length of your spine. Bend your knees and keep your feet apart to maintain balance and offload your lumbar spine.

If you cannot rest your head on the foam roller, use a pillow so that you can relax your head. Make sure to tuck your chin in so that you are not overextending your neck.

When you are ready, lift your hands and arms up to the ceiling and then slowly lower them out to the side away from the body. You may not be able to reach the floor but you should feel a strong stretch across the front of your chest.

For your first time, gently hold this position for about a minute. As you get comfortable with this stretch you can build up to 10 minutes each day.

To come out of the stretch, move your hands down to your side. You can either roll sideways off the foam roller onto the floor or if you are strong enough, roll yourself back up into a sitting position. Either way, be careful as you get yourself back up into a standing position.

TIPS FOR DUAL TASKING

Start dual tasking with the exercises that you are familiar with and can already do well.

- The exercise should always be your first priority.
- Don't let dual tasking compromise the amplitude or control of the exercise. If it does, then focus on the quality of the exercise.
- If you feel you have reduced your power, sped up the exercise or lost the technique; stop, restart the exercise and then the second activity.

While you are exercising consider saying out loud:

- as many countries as you can
- as many capital cities as you can
- all the occupations that you know of

You can also:

- count backwards from 100
- name the most popular sports
- count in multiples

Exercise recording sheet

Week	Exercise	Repetitions						
		Mon	Tues	Wed	Thurs	Fri	Sat	Sun
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

Get in touch

Parkinson's New Zealand is a registered Charitable Trust that provides information, education and support to people with Parkinson's/Parkinsonism conditions, their whānau and carers.

-  Parkinson's New Zealand
PO Box 11 067
Manners Street
Wellington 6142
-  0800 473 4636
04 801 8850
-  info@parkinsons.org.nz
-  www.parkinsons.org.nz
-  www.facebook.com/parkinsonsnz

Before starting any of these exercises please consider getting a Health Professional or GP medical clearance.





Living Positively with Parkinson's

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