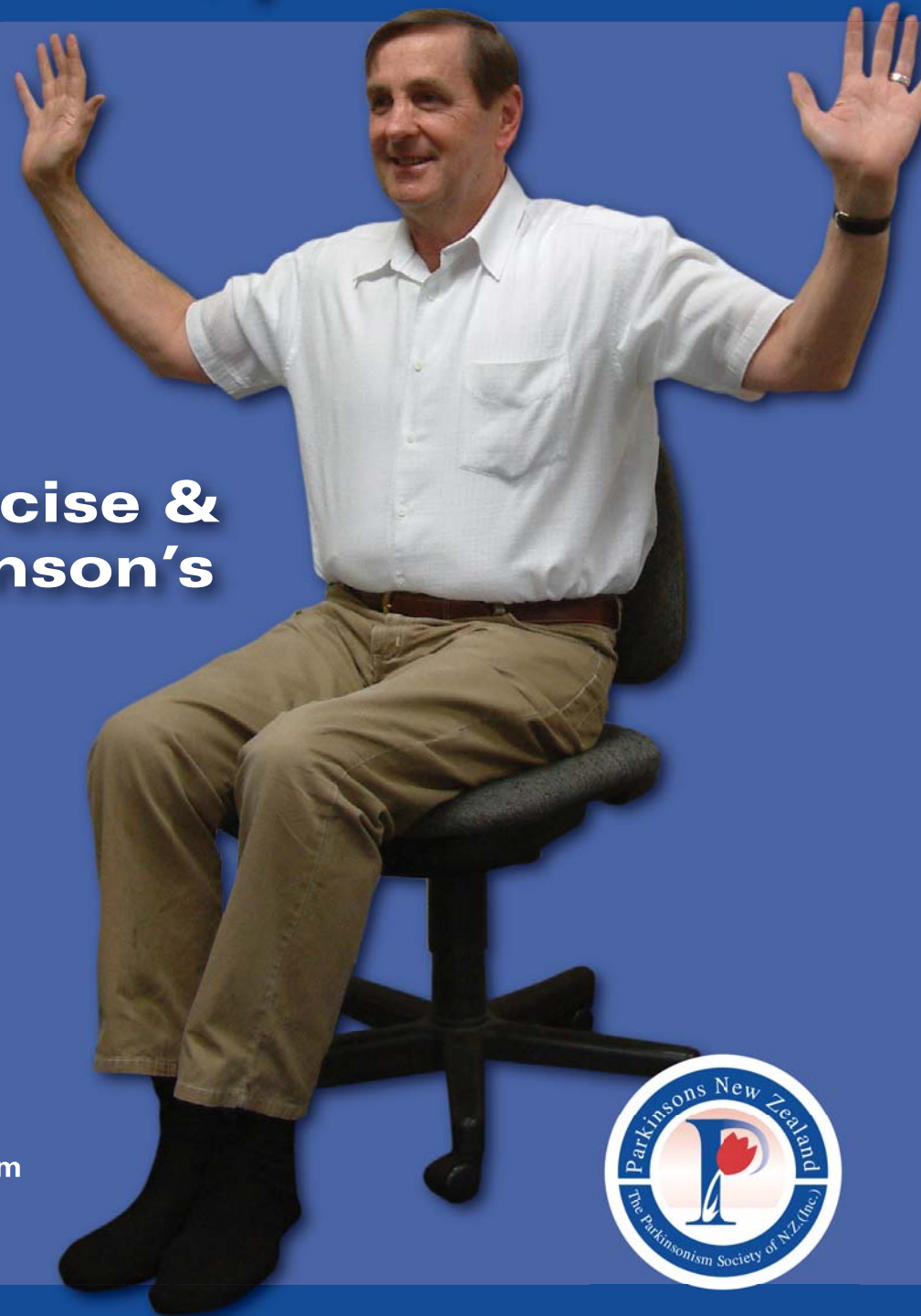


KEEP MOVING, KEEP FIT

A Guide to Exercise & Fitness in Parkinson's



Produced with assistance from
ACC, J. R. McKenzie Trust,
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CONTENTS

	Page
Acknowledgements	2
Introduction	3
Fitness and Parkinson's	4
How do I start	5
Flexibility	6
Muscle strength	7
Balance—preventing falls	8
Posture	10
Walking	10
Everyday techniques	11
Relaxation	12
Carers—looking after yourself	13
Putting it all together	15
Important numbers	15

Exercise is important for everyone whether they have Parkinson's or not. This booklet and the accompanying poster has been written to get you exercising and benefit your well-being as a whole. The exercises in this booklet are only part of the many that you may benefit from. There are many forms of exercise such as Tai chi, yoga, hydrotherapy, Pilates, or walking on the beach. You may like to join a gym or exercise class or form a group to exercise at home. It's just a case of finding something that suits you and your abilities. Please consult your Parkinson's Field Officer, physiotherapist or doctor before commencing any exercise programme.

This exercise booklet and the accompanying poster has been produced by Parkinsons New Zealand. Written by Annie Fisher, Physiotherapy Tutor, Otago University and Paula Ryan Otago Parkinson's Society Field Officer.

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INTRODUCTION



Knowledge is a key to managing the changes that confront those who live with Parkinson's disease.

If you have recently been diagnosed with Parkinson's disease (PD) it is important to recognise the condition is one that demands adaptation, not despair. Learn to pace yourself, prioritise goals and make timely use of physical, occupational and speech therapy. It can make all the difference to how you enjoy life and maintain mobility and independence for as long as possible. Maintaining a positive attitude is one of the healthiest things you can do in response to a diagnosis of PD.

There are things that you can do to dramatically increase your quality of life by making some practices part of your daily routine. Regular exercise, being part of a support group, maintaining a healthy diet and having accurate information about PD are just some of the things you might consider.

Research has shown that regular exercise is beneficial for people with Parkinson's. Exercise can reduce stiffness and improve mobility, posture, balance and help people to overcome problems with walking. Many people assume that the exercise they get during their daily routines at work or home such as gardening, house cleaning, and climbing stairs, is sufficient. These activities are helpful, but a regular and preferably supervised exercise program is highly desirable. Such programs should be tailored to individual needs. Exercise may not halt the progression of Parkinson's, however it can improve quality of life and directly affect symptoms such as stiffness and slowness of movement, as well as improving levels of fitness and a sense of well-being.

When do I start my exercise programme?

Early exercise, combined with medical management is recommended as a means of delaying some of the physically disabling effects of Parkinson's. However, it is never too late to start an exercise programme. Exercise programmes, either specifically designed for people with PD, or in a community setting can be helpful. An assessment by a physiotherapist will provide; a guide to appropriate exercise, useful ways of managing slowdowns or freezing episodes when moving, exercises to improve your balance and methods to help with fatigue.

When is the best time to exercise?

The best time to exercise is when mobility is at its best. People who take medication for Parkinson's will be able to gauge for themselves the best time to exercise.

Why should I exercise?

Regular, moderate exercise has been shown to improve motor function. Parkinson's does not significantly reduce the strength in our muscles, but may cause joint stiffness.

If you have trouble sticking to an exercise program at home, try a group exercise program with others. Even a little bit of exercise each day can help to make a difference.

FITNESS AND PARKINSON'S

There are significant health gains to be made for everyone from as little as 30 minutes of physical activity on most days of the week. If you have mild to moderate PD it should be possible to maintain a fitness level that is little different to non-PD people of your age.

However, PD tends to make people less active. You need to counteract any unnecessary reduction in your physical activities.

Exercise training for people with Parkinson's can improve everyday activities such as walking, turning over in bed and getting out of a chair.

The three requirements for fitness are **flexibility**, **strength** and **stamina**. Of these, stamina is the main component of general fitness. How efficient are your heart and lungs so that you can 'keep going' with a physical task?

In other words, 'what is your aerobic capacity'?

Equipment

Parkinson's disease affects the way movement is organised by the brain. Some people find equipment is very useful in helping movement occur - steppers, cross trainers, exercise bikes, Pilates equipment, rowing machines and treadmills can be used at a gym or purchased and used at home. This type of equipment is often available second hand for a reasonable price.

Make sure that any equipment you use is safe and suitable for you and your environment.



- **Avoid exercise after a meal.**
- **Drink adequate fluids.**
- **Use an exercise mat.**
- **Warm up.**
- **Warm down.**

HOW DO I START?



Discuss your intended exercise programme with your doctor before starting on a fitness program or aerobic exercises.

Consult a physiotherapist to discuss the details of your aerobic exercise programme.

Your exercise programme could be structured as the following table suggests using some of the exercises shown on your Keep moving, Keep fit poster. This could be broken into several portions during the day or performed in one session.

Warm up	5 minutes duration	Light walking. Breathing exercises. Gentle stretches.
Flexibility	5 minutes	3 -10 second stretches to all major muscle groups.
Stamina	10 – 15 minutes	Walking, climb stairs, cycle, swim, active gardening, vigorous house work.
Strength	5 – 10 minutes	Weights, resist bands, body weight.
Cool down	5 minutes	Gentle stretches, relaxation, speech and voice exercises. Breathing exercises, arm swings.

How will I measure my fitness?

Apart from 'feeling better', how can I measure my fitness?

- An inexpensive heart rate monitor can be worn while exercising. As your fitness improves your heart rate will decrease.
- Six to 12 minute walk-test. How far can you walk in 6 to 12 minutes? Can you increase the distance?

SAFETY CONSIDERATIONS!

- **If you have chest pain and/or shortness of breath during exercise stop, consult your doctor.**
- **If you have sudden sharp muscle pain/joint pain which increases with further activity stop, consult your doctor.**
- **If you have a painful joint condition, exercise only in a pain-free range of movement.**
- **If you have a fall, you are advised to see your doctor. Consult your physiotherapist for injury prevention strategies.**
- **If your exercise programme is interrupted by illness, begin the programme again gradually when you are well.**

FLEXIBILITY

Why stretch?

Parkinson's can cause muscles to feel stiff and tight, especially if your medication is wearing off. Sometimes muscles ache with PD.

Muscles can become weak and joints may stiffen. Gradually people with Parkinson's can become stooped and shuffle. Even being able to breathe deeply may be difficult.

How do I stretch?

All stretches should be done slowly and smoothly—so don't 'bounce' the muscle that you are stretching. Hold the stretch for at least 10 seconds. Relax the muscle for a short time after the stretch. Then repeat at least three times.

Stretch the muscles on both sides of your body.

Stretch only to tighten the muscle. Relax the stretch if pain increases when being held.

Relax after performing the stretch.

What muscles do I stretch?

There are many, many different stretches, but with PD the most useful stretches are those for the neck, front of shoulder, the trunk, the back of the legs and hands.

- **Hold a tennis ball in one hand.**
- **Press the ball into the V space between each pair of fingers.**
- **Repeat with your other hand.**
- **Continue for two minutes.**

How long should I do these stretches?

Firstly, try to incorporate stretching of muscles into everyday life. Hang out the washing – that's a good stretch for the shoulders! Use daily tasks to do your stretches for you, but don't forget areas such as the webs of the fingers or the vocal cords – they are muscles too.

Your exercise program should start with the aim of performing 5 to 30 minutes of stretching *everyday*.

Don't forget the small muscles of your hands.



MUSCLE STRENGTH



Why strengthen?

Parkinson's does not directly cause weakness of our muscles. But it can have a marked impact on muscle strength if it progresses to the point that everyday tasks are affected. "If you don't use it, you lose it" is very true with PD.

How do I strengthen my muscles?

In mild to moderate Parkinson's muscle strength can be maintained by keeping up an active life – walking, cycling, jogging, golf, bowls, swimming – any physical activity that you enjoy. When Parkinson's starts to impact on these activities then you should act to maintain muscle strength in ways that are structured and safe. PD means that we may need extra prompts or cues to 'kick-start' our exercises. Weights, resistance tubing, balls and springs can help us to get going. Exercising to music or counting out loud are other ways of overcoming the slowness of Parkinson's. There are many different methods of strengthening muscles, including using your own body weight.

How often should I exercise?

It is recommended that muscle strengthening exercises be conducted twice a week, while posture and stretching exercises can be performed daily. Ideally each strengthening task or exercise should be repeated 8 – 10 times, before a rest. Repeat this set of 8 – 10 repetitions three times in your exercise session. To maintain muscle strength two sessions per week is sufficient. Three sessions per week will result in improvement. Never train the same group of muscles on consecutive days – allow 48 hours rest. Frequently reassess weights and loads and increase if necessary.

Goal strength training should be achieved in 6 – 8 weeks. Remember that strength only comes from working the muscles close to their maximum.

Practise your sets when your Parkinson's medication is at its peak.

What muscles should I strengthen?

- The large muscles of the arms and legs.
- The muscles of the trunk – abdominals and back extensors.
- The muscles of the upper back and neck.

Don't forget the muscles of the voice!

Practise speaking loudly.



SAFETY CONSIDERATIONS!

- **Always check equipment before use.**
- **Wear appropriate clothing – no loose clothing that may catch in equipment, wear shoes that could protect you from dropped weights.**
- **Warm up with gentle stretches before strengthening exercises.**
- **Pain is a warning sign – if you have joints that are painful consult your doctor.**
- **Warm down with gentle stretches at the end of your exercises.**

BALANCE – PREVENTING FALLS

Are falls a common problem?

“Falls are common in people aged 65 years and older and are the leading cause of injury in this age group” (ACC).

It has been estimated that up to 40% of people with Parkinson’s have problems with balance and falling.

Why do we fall?

Parkinson’s affects the automatic actions of the brain - like balance control. Loss of balance and falling can be a common feature of Parkinson’s caused by a variety of factors. You may trip due to slowness and weakness in our legs. Or you may be dizzy due to the lower blood pressure some people experience with Parkinson’s. You may have other problems like painful joints or cataracts. Each individual experiences Parkinson’s differently, so not everyone will experience falls. It is important though to be aware of the risk, as it is more common to fall as the condition progresses.

What can we do about poor balance and falling?

Research has shown that exercise can enhance balance and significantly reduce falls.

Strength, flexibility and balance exercises will decrease the risk of falling. Strength and flexibility exercises are covered on pages 6 and 7 of this booklet.

All exercises should be done **safely**. Supervision may be necessary, especially at the beginning. Balance work as part of a rhythmic sequence as in Tai Chi or using gym balls can provide extra cues that are invaluable if you have Parkinson’s.

But be safe! Balance exercises are of great benefit for people with Parkinson’s but if you have fallen in the past ask a physiotherapist for advice on appropriate exercises.

There may be strength and balance exercise programmes available in your local community. Contact your GP to see if you are suitable to participate in these programmes.



Sometimes I feel unsteady on my feet when exercising – what can I do?

Options:

- When possible perform your exercises sitting down.
- Hold onto a solid bench or table when performing standing exercises.
- Only perform floor exercises if you can get up by yourself.
- Only exercise when other people are at home who can help if necessary.
- Exercise with others.
- Wear appropriate clothing and footwear.

Preventing accidents and falls

The following are some precautions you can take to prevent accidents and falling.

- Avoid carrying objects in both hands while walking.
- Avoid standing for long periods with your feet too close together, which can increase your risk of falls.
- Lengthen your stride when walking. Falls may result when you shuffle your feet, or as a result of foot drag, which is common among people with Parkinson's disease.
- Swing your arms when walking. This helps maintain balance and decreases fatigue.
- If your feet feel 'frozen to the floor' when you start to walk or move, you can attempt to step over an imaginary obstacle in your path or initiate the transfer of weight by rocking from side to side.
- Do not wear rubber-soled shoes because they grip the floor and may cause you to trip.
- If rising from a seated position is difficult, place your feet directly under your knees, lean forward and stand up firmly in a smooth movement. Rather than using your hands and arms when attempting to stand up, use your thigh muscles. This exercise also helps strengthen the large muscles of the legs, maintaining strength and walking ability.
- If you tend to feel lightheaded, move slowly when changing positions. When getting out of bed, sit up slowly, remain seated on the side of the bed for 15 to 30 seconds, and then stand in one place for 15 to 30 seconds before walking. This technique can prevent falls.
- Do not use throw rugs or wax the floors of your home. Ensure that rooms are well lit, and consider using night-lights in hallways and bathrooms. Keep your home free of clutter and electric cords to prevent tripping.
- You may need to use grab bars to get into and out of the bath and shower. A raised toilet seat with arm rails may also be a helpful.
- In the kitchen, keep supplies that you use often in an easy-to-reach cabinet. You may need to use a long-handled sponge or mop to wipe up spills.
- Removing furniture with sharp edges from commonly used pathways - make a safe, clear walkway.
- Avoid high risk activities such as using ladders, step stools, rushing to answer the phone (get a cordless) or trying to do two things at once.
- Be alert to medication side effects.
- Get dressed whilst sitting down.

POSTURE

Parkinson's, combined with decreased physical activity can lead to changes in posture. Your hips and knees can flex and stiffen. Your head can poke forward to counter this and your walking can change too. Posture is also important for safely swallowing food and to produce a strong voice. So take some time each day to focus on posture, especially after doing stretches for muscles which may be tight.

WALKING

"Walking becomes a task which cannot be performed without considerable attention."

James Parkinson, "An Essay on the Shaking Palsy"

Before Parkinson's we could walk without thinking about it. But with onset of PD walking can change. The automatic arm swing and weight transference do not occur unless we think about it. Some people become stooped and their footsteps get smaller.

What can we do about it?

- Visualise taking long steps.
- Think "back straight" and look ahead.
- Tell your arms to swing.

- Tell your heel to touch first.
- Plan your route.
- Put cues at places of difficulty.
- Strips on the floor, cue cards on the wall.
- If you need to turn around, walk in a semi circle, don't swivel on one foot.
- If you feel unsteady, stop and take a step to recover.
- Don't walk and talk at the same time.
- If you freeze, relax, imagine stepping over something.
- Walking to a regular beat like music works well.
- Try walking with a group.
- Always wear supportive shoes, but not with rubber soled soles as this increases friction making it more difficult to walk.
- You may find a walking aid beneficial.





Why can it be so hard to change position when you have PD?

Parkinson's affects the part of the brain that controls semi-automatic movements, such as walking, turning, rolling over and standing up.

So movements are often hard to start and slow to complete.

In standing, our feet can become 'glued to the spot' or 'frozen'.

Muscle weakness can be a factor.

Anxiety can be a factor.

Environmental blocks – doorways, narrow paths, even the weight of a blanket can stop us moving.

What can you do?

Break the movements down into smaller parts. Say these to yourself to provide a verbal cue. Say them out loud to exercise your vocal chords!

Practise changing position as an exercise, 8 – 10 times.

Plan the movement, it might not 'just happen' anymore.

Use cue cards with simple instructions to remind you.

Can you change anything in the environment to make changing position easier? The Parkinson's Field Officer, Occupational Therapist, or members of your local Parkinson's division will have lots of ideas.

Getting out of a chair

- Slide to the edge of the seat, use the arm rests.
- Lean forwards, put your feet under you, about 1/2 metre apart.
- Push 'forwards and up' in a smooth movement, using your thigh muscles.
- No problem? You could turn this into a strengthening exercise by repeating it 3 - 8 times.
- Try it without using the armrests or use a lower chair.

Rolling over

- Bend your knees up.
- Turn your head in the direction of the roll.
- Reach across with your upper arm.
- Turn your hips and swing legs over side of the bed.
- No problem? Make this a strengthening exercise by repeating it 8 – 10 times.

- **Use visual cues such as looking at a cue card or bedside lamp.**
- **Use a pole or grab rail to help you turn over.**
- **Use satin sleepwear or sheets to reduce friction, but not both together.**

RELAXATION

Living with Parkinson's means that much mental energy is needed just to do simple things that we wouldn't even think about before PD developed. You can use up huge amounts of energy, resulting in mental and physical fatigue. Anxiety is a feature of many people's PD, especially in the 'off' times of medication. Try the strategies suggested for moving under these conditions. If anxiety continues to be a problem medication may be beneficial.

Learning to relax is part of living well with Parkinson's.

There are many relaxation techniques that will help you. The following are just some techniques that people with Parkinson's and families may wish to try.

Learning to relax

- Set aside time each day for relaxation.
- Practise relaxation techniques as part of your 'cool-down' time.
- Focus on the breath, how smoothly the breath flows in and out.
- Make sure that you are warm, you'll cool down quickly.

Relaxation position

- Lying on your back, with a small pillow under your head.
- Put a small pillow under your knees to align the spine.



- Take a deep breath in through the nose.
- Breathe out, opening the mouth and sigh a long, loud AAAHHH.
- Repeat 3 – 5 times.
- Be aware of any tension in your face, relax your jaw.
- On the in-breath feel your abdomen rise, then fall on the out-breath.

Concluding relaxation

- If you feel deeply relaxed, start to move fingers and toes.
- Breathe in, lifting your arms up in the air.
- Breathe out, lift your arms above your head, stretching them back towards the floor.
- Hold and stretch for 2 breaths.
- Breathe in and lift your arms back up.
- Breathe out, lower your arms to your sides. Turn over, slowly sit up.



Relaxation in sitting

- Sitting in a chair, hands interlaced at waist level.
- Take a deep breath in, push your hands out straight, palms facing out and breathe out.
- Bring your hands back to waist level, breathe in and push hands upwards over your head while pushing the breath out.
- Bring hands back to waist level, breathe in and push hands downwards and out slightly while breathing out.
- Turn your palms upwards and carefully straighten up to a sitting position. Repeat 2 or 3 times.

Groaners' Yoga

- Sit comfortably on a chair.
- Close your eyes, take a deep breath in.
- Sigh the breath out, groan if you like!
- At the same time, let your arms relax in any position. Repeat twice.
- Consider Tai Chi or Yoga for relaxation and meditation.

Caring for people with PD

Parkinson's never involves only one person. Having someone you care for lose the ability to spontaneously, move, turn, smile – all manner of actions - can be difficult to come to terms with.

So what can we do to help?

Support groups for many people play an important role in the emotional well-being of people with Parkinson's and their families. They provide a caring environment for asking questions about Parkinson's, for laughing and crying, sharing stories, getting advice from others and for forging friendships with people who understand each other's problems. Contact your local Parkinson's Field Officer or division for more information.

CARERS – LOOKING AFTER YOURSELF

Understand some of the special challenges of PD.

- Allow extra time for things to get done.
- Learn when to help **and** when not to.
- Make contact with the local **Parkinson's Field Officer**.



Maintain your own fitness

Do the exercises suggested too.

Set aside 30 minutes a day for some physical activity you enjoy, as often as you can.

Get enough sleep and make use of access to respite care.

Who can help me?

Your Parkinson's Field Officer will have further information.

Green Prescription – your doctor can fill out a 'green prescription' for exercise, detailing any medical conditions that may affect your exercise capacity. A member of your local Sports Trust will then arrange to see you for an interview and discuss exercise options.

PUTTING IT ALL TOGETHER



With so many treatment options already available, and so many more on the way, every person with Parkinson's has good reason for hope. It's true that the condition can be frustrating, embarrassing and at times frightening. But if you are willing to persevere, willing to build good relationships with competent and compassionate people such as your neurologist, Parkinson's Field Officer, GP, physiotherapist, speech therapist, occupational therapist... etc it will play an important role in the management of your condition. The benefits of exercise have been known for a very long time – for all of us, people with Parkinson's, spouses, partners, carers and friends.

Of course we are all different, and our preferences for exercise will be just as varied, but try to integrate features of all of the sections of this booklet for a well-balanced program for your general fitness and Parkinson's.

Keep a record of your exercise programme and improvements that you make in fitness, strength, balance and changes of position.

IMPORTANT NUMBERS

Parkinson's Field Officer	
Local Parkinson's Division	
Neurologist	
Doctor	
Physiotherapist	
Social Worker	
Occupational Therapist	
Speech Therapist	
Dietician	

