

Physical Activity Champion

Exercise guidance

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Champion Mentor

Introduction

by John Molyneux, Molyfit instructor

Thank you for giving up your spare time and agreeing to be a Parkinson's UK Physical Activity Champion. This wonderful initiative was the brainchild of Parkinson's UK East of England.

This volunteer role will keep the message strong about the importance of being physically active with Parkinson's. Movement is medicine.



What exercise should someone with Parkinson's do?

The easy answer to this is any exercise will have some benefit for a person with Parkinson's. The focus should be on enjoyment. If people don't like what they are doing, they will be less likely to do it. There are many different types of exercise, and the information can be overwhelming. This guidance will help you navigate different opinions and signpost people towards the exercises that will benefit their individual needs.

Where do I start?

This greatly depends on the individual. Parkinson's is so varied from one person to the next. I tend to start by looking at the person in front of me and starting with their main symptom. If someone has a bad back, I will tackle that first to gain greater mobility. If their tremor is the main concern, I will look at techniques to help reduce the tremor, and so on. Try to take the complication out of the scenario and start small, building trust and confidence in stages as you go. If someone has heard about the wonders of table tennis and wants to give it a go, encourage them. Being part of a team or community has massive benefits and is well documented, but you also need to look at the individual's deficits and advise on the techniques and strategies to alleviate those deficits and symptoms using targeted exercises.



Parkinson's UK states:

“Just like Parkinson's, the right physical activity is different for everyone. But being active is always most effective when you push yourself. Whether that's playing tennis for an hour or practising everyday movements, like walking up the stairs. Being active is important for everyone. It can help manage your symptoms. The more physically active you are, the easier it is to live well with Parkinson's. Physical activity has a positive impact both physically and mentally. It can be as important as getting the right dose of medication. Being active for 2.5 hours a week can help manage Parkinson's symptoms.”



When prescribing targeted exercise, a useful tool is to consider the prominence of two motor symptoms of Parkinson's: tremor-dominant and postural instability/gait difficulty (PIGD).

Tremor-dominant Parkinson's (TD)

To help reduce the symptoms of a tremor you should try to distract the tremor. This can be achieved by exerting force through the muscles of the affected area. For example, if the tremor is in the arm, try asking the person to sit on their hands or push their hands against a wall. Any exercise that uses the arms should also help reduce the tremor. Look at stretches as well as movement. Stress and muscle tension can increase the tremor so get the person to relax and stretch the arm, but also look at other areas that will be affected by this constant aggravation. With tremors in the arm, look at reducing tension in the shoulder but also the legs and the hip. This technique will help all tremor types: resting, postural and action. As always, each individual will have an exercise that specifically suits them. You just have to find that golden exercise.

While tremor is prominent, other symptoms may still be present but to a lesser extent compared with the tremor. Start by reducing the tremor and then move onto the other symptoms. You don't want to overwhelm someone with a list of exercises that will be impossible to achieve. Dealing with symptoms through exercise is like juggling balls in the air. Concentrate on the most prominent symptom but also keep an eye on others that show themselves, nipping them in the bud when they do.

Postural instability/gait difficulty (PIGD)

People with PIGD experience greater difficulties with balance, gait and posture so can have an increased fall risk. They can experience problems with freezing, initiating movement and a tendency to lean forward. PIGD is often associated with a more rapid progression of Parkinson's. Tremor may be present, but it is not the primary symptom. Exercise can have an astonishing effect when reducing these symptoms. Try to encourage daily walking, with postural correction and cueing if needed. I start with what I call the Parkinson's checklist:

- ▶ Feet hip distance apart.
- ▶ Knees back, legs straight.
- ▶ Bum tight.
- ▶ Core on.
- ▶ Chest open, shoulders back, arms straight by your side.
- ▶ Eyes forward, head up.



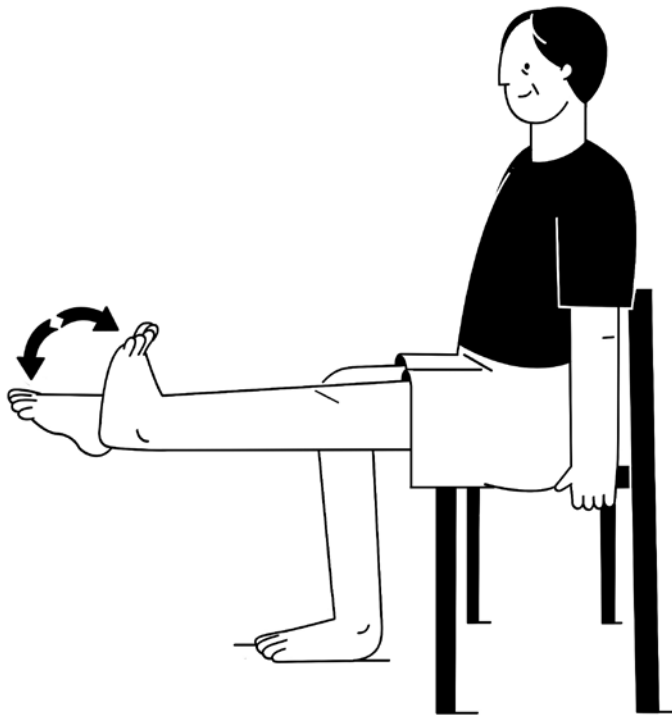
As Parkinson's affects the control of automatic activities, posture changes occur without the brain's automatic reminders to stand up straight. This causes the person to look hunched over, with rounded shoulders, decreased lower back curve and a forward lean of the head or whole body. Maintaining posture is a constant battle as the body just forgets to do it.

Poor posture will increase risk of falls, put increased stress on joints and muscles, leading to pain and discomfort, and contribute to muscle spasms and stiffness. You will see over time that, if this is not addressed, joints will lose range and muscles will increase in stiffness, losing flexibility and function.

By constantly reminding the person to think of the checklist you will slow the progression of these changes and raise awareness of what they need to look out for outside your sessions together.

Use strong verbal cues that are high in energy, such as 'Be big and powerful' or 'Strong arms, big effort'. When exercising, use big, exaggerated movements. If a person is freezing, use cueing as a technique to counteract this.

Look out for these deficits as they come and deal with them. Often the person will not realise, so gentle guidance is needed. If the arms are not straightening, work on stretching and activating the triceps or lats.



If the legs are bent, work on straightening them with calf stretches or gentle movement. Using gentle movement or stretching to manage the symptoms of PIGD is effective as long as you keep on top of all symptoms.

Non-tremor dominant (NTD) is a subtype characterised by a lack of prominent tremor with a focus on bradykinesia, rigidity and postural instability. To combat the bradykinesia, use large, powerful movements such as box step with high knees. Gentle movement, stretching and heat and one minute with a massage gun is best when dealing with rigidity.

Akinetic-rigid Parkinson's is characterised by prominent rigidity and akinesia (difficulty initiating movement). Again, work on big movements to tackle the bradykinesia, and gentle movement, stretching and heat for the rigidity.

Exercises proven to benefit Parkinson's

Neuroplasticity and PD Warrior

PD Warrior can be used to achieve neuroprotection, neurorestoration and neuroplasticity. The exercises are designed to slow the progress of Parkinson's by helping the brain to naturally rewire and protect itself. It is an exercise rehabilitation programme for individuals with mild to moderate idiopathic Parkinson's disease, but I successfully use elements of it with a client who is 77 years old and has been living with Parkinson's for 15 years.

PD Warrior works by rewiring the brain to help the person move more freely without having to think about it. The exercises are short but effective with an 80% effort output. They concentrate on dual-tasking training (performing two tasks at once), as with Parkinson's the movements that people don't normally have to think about become less automatic due to the damage in the basal ganglia, which controls speech, movement and posture.

High-intensity interval training (HIIT)

Research has shown that HIIT can stimulate growth and function of nerves and reduce rigidity and stiffness, improving balance and muscle control. A typical HIIT session is 30 seconds hard effort then a recovery period (depending on fitness level) repeated over a 20-minute session, three times a week.

When trying to raise the heart rate (up to 80% max. HR) for the intense phase, remember that Parkinson's medication can reduce blood pressure and resting HR. Because of this you will want to consider the individual's resting HR, so don't follow the 220-age scale too closely. If you are trying to get to 140 bpm from a resting HR of 45 bpm there will be a greater strain on the heart than going from a resting HR of 80 bpm, so reduce the maximum accordingly.

Boxing

I use boxing a lot in my exercise classes. For one, it is high intensity, again helping to improve motor skills, but it's also a great dual-tasking exercise, especially when adding footwork. Boxing will help to address symptoms such as tremor, balance, strength and posture but will also increase fitness levels.

Let's not forget about psychological symptoms; depression and anxiety are also symptoms of Parkinson's, and I have found boxing sessions help with this.

Consistent cycling at 80 rpm

There have been many studies that show that high-cadence cycling promotes improvement in all motor symptoms of Parkinson's. This involves cycling on a static exercise bike with an rpm of over 80. Pedal for Parkinson's recommends doing this for 40 minutes, so this is something to build up to. It seems like a lot, but once a person has built up a rhythm, it's surprising how attainable it can be.

Using an exercise bike is also a great way of doing dual tasking. When I have clients on the bike, I often strike up a conversation or ask questions that work memory. For example, once someone is up to speed and pedalling along at 80 rpm, ask a question like 'Name as many states in the USA as you can think of'. Initially, you will see the rpm decrease as the brain is taken away from the task of turning the pedals. With practice, this will reduce or even stop and the rpm stays constant.

You can also add in a few HIIT intervals for good measure. The bike is a really good all-rounder. There is also the recumbent option for people with reduced mobility or joint issues.

Walking

Walking is a must, not only for fitness and motor function but also because you will see a shocking decline in ability after a few weeks of not walking. There is obviously massive anxiety associated with walking and a risk of falling, but you must encourage your clients to try. You want them to keep their independence and mobility. It won't take long for confidence to slip if someone is too worried about falling so stops going for a walk.

When using the treadmill, get them to hold onto the side rails for safety, and cue their posture while checking correct gait.

Strength training

You are training someone to improve their lives and help with the activities of daily living. Strength training will help this by keeping the muscles strong and the joints mobile.

Exercises that I use to maximise this potential are:

- ▶ Deadlifts, to strengthen the posterior chain.
- ▶ Lat pull downs, to open the chest, fully extend the arms and strengthen the back.
- ▶ Tricep extensions, important when pushing out of a chair or bed.
- ▶ Squats, so important for sit to stand and walking.

Add these exercises into your session when you can but try to put your focus more on functional strength training. This will work the muscle groups that are used to complete daily tasks, such as getting out of a chair or climbing the stairs, as well as building and maintaining muscle strength.

An example of this – and one I include in every session – is sit to stand. This is the activity that, at some point, every one of your clients will struggle with, especially after sitting for a long time. The exercise will also help with allowing your client to maintain their independence.

Pickleball

Pickleball is a beneficial activity for individuals living with Parkinson's. It can improve balance, coordination and motor skills, while also offering social and cognitive benefits. The controlled movements of the game, combined with the social interaction, can help manage both motor and non-motor symptoms of Parkinson's.

Table tennis

A table tennis exercise programme is fun and may improve activities of daily living and motor symptoms in people with Parkinson's. The unique focus in table tennis on balance, coordination and concentration is believed to support neuroplasticity. This helps improve motor skills, mental clarity and overall well-being.

I hope this has given you a little clarity. The key thing to remember is that, with exercise, you get out what you put in and it should be looked at as an investment. Parkinson's will try to take away movement, but you can fight it and tease the movement back out. Aim for a routine, doing as many different exercises as possible while targeting what is needed.



**Keep fighting and maintain
a positive mental attitude,
believing in your ability.**

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