

**PARKINSON'S DISEASE  
OVERVIEW,  
WITH AN EMPHASIS ON  
PHYSICAL WELLBEING**

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# PARKINSON'S DISEASE

- PD is a progressive neurological disease resulting from the degeneration of dopamine producing neurons in the substantia nigra in the basal ganglia.
- Clinical signs of PD are evident when about 80% of the dopamine producing neurons are lost.
- Unknown cause-environmental and genetic factors (5%).
- Second most common neurodegenerative disease after Alzheimers.
- Approx. 9000 people with PD in Ireland, due to ageing populations numbers will have doubled by 2030.
- Stages of disease-early, mid, late.

# WHAT IS PD?

## CARDINAL SIGNS

- Bradykinesia/slowness of movement
- Rigidity/stiffness
- Tremor/shake
- Postural instability/imbalance- usually presenting as a later feature

## NON-MOTOR SIGNS

- Anxiety, apathy, depression,
- Psychosis and visual hallucinations.
- Dementia,
- Sleep disturbance,
- Autonomic disturbances (bladder, bowel, low blood pressure on standing),
- Sensory disturbance (pain and olfactory disturbance).

# MANAGEMENT OF PD

- Medication-levodopa, dopamine agonists, amantadine, MAO-B inhibitor, duodopa and apomorphine pumps.
- Multi disciplinary team care- always recommended due to the highly complex and wide range of Parkinson's symptoms.
- Deep Brain Stimulation (DBS)- involves the implantation of a wire with four electrodes at its tip into specific parts of the brain. The wire is connected to an implantable pulse generator that produces electrical signals, which are sent to the brain to stop or reduce PD symptoms.
- Alternative therapies e.g. yoga, reflexology, mindfulness.
- Self management-adherence to medication, nutrition, sleep hygiene, regular exercise.

## WHAT ABOUT PHYSICAL ACTIVITY AND EXERCISE?

- People with PD are 33% less likely to exercise than their healthy peers.
- Not doing enough exercise can be more harmful to you than taking up a physical activity.
- A physiotherapist can help start you on a suitable exercise programme; the primary aim of physiotherapy is to promote health and physical wellbeing by maximising mobility and functional ability.
- This encompasses physical, social, psychological and emotional wellbeing.

# GENERAL BENEFITS OF EXERCISE

- Decreased risk of heart disease
- Decreased blood pressure
- Decreased cholesterol
- Decreased obesity and obesity related diseases e.g. Diabetes
- Can help manage osteoporosis
- May help prevent or delay cognitive decline
- May reduce or prevent depression
- Overall improvement in mood and general wellbeing
- Improved sleeping pattern

## GENERAL TIPS ON EXERCISING

- Exercise at a time of day when you feel best and the meds are working well ('on' period).
- Choose a type of exercise that you like and that suits your abilities.
- Try to build your exercise programme into your daily routine.
- If possible, exercise with others for support and encouragement and to increase motivation.

# WHEN SHOULD YOU VISIT A PHYSIOTHERAPIST?

## 1. As soon as possible after initial diagnosis of Parkinson's disease for:

- Self-management advice, education & coaching, ***including support to stay or become physically active.***
- If required, supervised/tailored intervention, e.g. to address specific problems such as posture or stiffness.
- Establishment of appropriate review dates for ongoing physiotherapy management.



## 2. When you experience any of the following:

- Problems with transfers, eg rising from chair or rolling in bed
- Walking problems like slowness and/or freezing
- Balance problems, including falls or near falls
- Manual activities/ fine movements of the hands
- Pain, eg shoulder, neck, back

## 3. If admitted to hospital for any cause.

## BEFORE VISITING YOUR PHYSIOTHERAPIST

- Write down problems and questions you want to discuss.
- Consider bringing a family member/carer with you.
- Describe previous treatment methods/any tricks/strategies that currently help your mobility.
- Think of specific treatment goals you want to achieve.
- Consider a method/plan for continuing your exercise routine once your physiotherapy episode finishes.

# NEW EUROPEAN GUIDELINES FOR PHYSIOTHERAPY

- New Guidelines recently published.
- Up to date research and evidence.
- Ireland was included in the development group.
- Recent project completed on dissemination of the guidelines and training on how to use them.
- 5 training courses run in all regions of the country.
- Your physiotherapist should be familiar with and using these guidelines.

## KEY MESSAGE FROM EUROPEAN GUIDELINES

- Get active
- Stay active
- Stay strong
- Tackle issues before they become too problematic
- Learn how to manage aspects of your own condition
- Work in partnership with your physiotherapist
- Find more information at [www.parkinsonnet.info/euguideline](http://www.parkinsonnet.info/euguideline)

## PHYSIOTHERAPY AND PARKINSON'S DISEASE

- Posture – excessive flexion (bending), reduced rotation, reduced arm swing, slumping in chair.
- Balance – slower reaction and response times, flexed posture and gait difficulties all combine to a decrease in balance and possible falls risk.
- Gait/walking – difficulty in initiation and turning, freezing, shuffling steps. Try to walk with a heel-toe gait pattern.
- Fine movements – handwriting, buttons, tying shoe laces, using cutlery.

# PHYSIOTHERAPY TREATMENT

- Bed mobility and transfer practise.
- Muscle stretching and strengthening.
- Gait re-education with use of cues and prompts to improve walking pattern.
- Balance re-education using different exercises to improve static, dynamic and reactive responses.
- Home exercise programme.
- Advice to family and carers.
- Advice on aerobic exercise and improving cardiovascular fitness.

# WALKING PROGRAMME

- Start at a low level intensity and low frequency e.g. 5 minute walk 3 times a week.
- Slowly build up duration e.g. add on another 5 minutes each week.
- Then increase frequency, aim to walk on most days of the week.
- Try using an exercise diary.
- The World Health Organisation recommends that healthy adults do a minimum of 30 minutes of exercise on at least 5 days of the week.

## THE IMPORTANCE OF STAYING ACTIVE

- Aim to make exercise a part of your weekly routine
- The benefits of exercise are quickly lost if you stop exercising
- Start with getting the 'ok' from your GP or consultant.
- Find a physiotherapist to get the best advice and signposting to what is suitable for you
- Find ways to work together, be innovative, motivate one another.



## USEFUL RESOURCES

- Parkinson's Association of Ireland [www.parkinsons.ie](http://www.parkinsons.ie)
- Move4Parkinsons [www.move4parkinsons.com](http://www.move4parkinsons.com)
- UK Parkinson's disease society, [www.parkinsons.org.uk](http://www.parkinsons.org.uk)
- APPDE- association of physiotherapists working in Parkinson's disease in Europe. See [www.appde.eu](http://www.appde.eu)
- Keeping Moving – exercise booklet and DVD by Richard Webber and Bhanu Ramaswamy. Can download booklet online for free.
- Certain apps example step counters, exercise coaches/motivators, condition specific ones for freezing e.g. Beats Medical