

All neurodegenerative diseases (including PD) gradually become more severe with the passage of time.

Despite extensive research ongoing worldwide, the reasons and mechanisms of nerve cell attrition in PD (or any other neurodegenerative disease, for that matter) have not yet been clearly discovered by medical scientists.

Several mechanisms including genetic and environmental risk factors are thought to contribute to this premature cell loss. Since it is unclear why or how the nerve cells die, there are currently no treatments available to modify this process, to cure or halt the progression of this disease.

WHAT ARE THE SYMPTOMS OF PD?

The cardinal symptoms of PD are movement related- slowness of movement, stiffness in the body, tremors and walking difficulty. However, many persons with PD also experience symptoms unrelated to movement- loss of smell, low mood, sleep disturbances, seeing or hearing things that are not there, difficulty

in controlling pleasurable behaviours, difficulty in control of urine, constipation, giddiness, memory problems etc. In fact, some symptoms such as low mood, loss of smell, pain, constipation and sleep disturbances can predate the movement related symptoms and diagnosis of PD by several years, whereas others such as memory/cognitive difficulties usually occur much later in the disease course. For more information on the symptoms of PD, please refer to the leaflets on these topics.

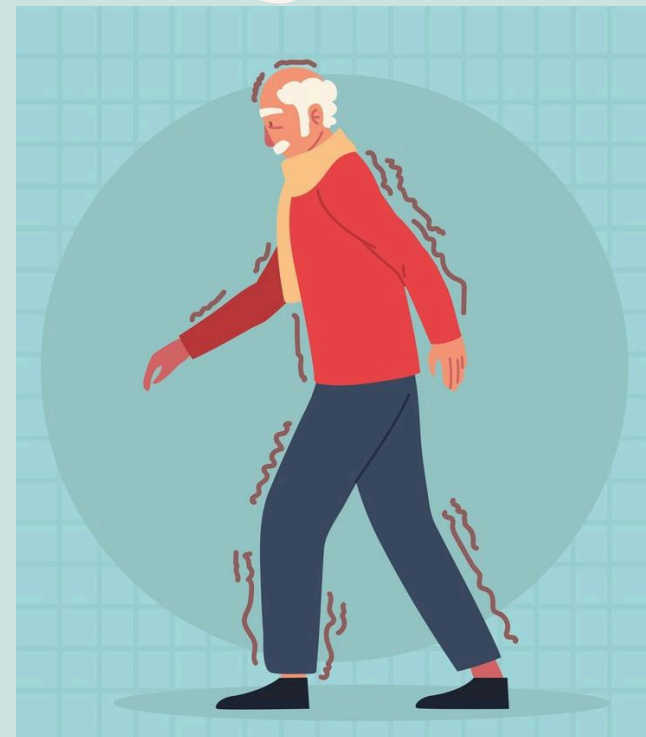
Although there is no cure for PD at present, there are several effective medical and surgical treatments that help to control the symptoms. Most people with PD are able to live near normal lives thanks to these therapies. Along with medications, leading a physically active lifestyle with regular exercise is known to tremendously benefit persons with PD in dealing with both the movement related and unrelated symptoms.



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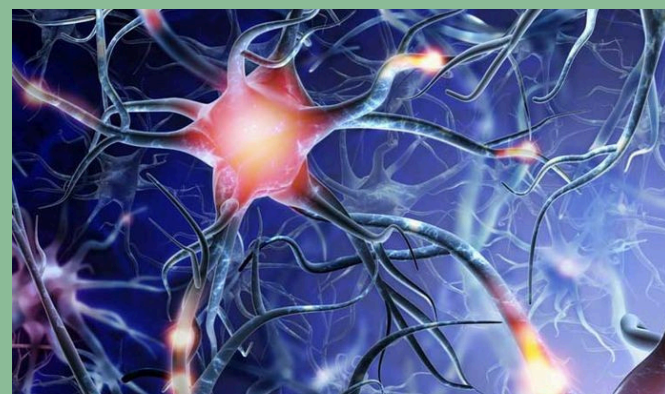
WHAT IS PARKINSON'S DISEASE?



Parkinson's disease (PD) is a neurodegenerative disease affecting the brain. "Degenerative diseases" are a group of disorders resulting from progressive and premature death of nerve cells that form the brain's basic structural and functional units.

In PD, the nerve cells predominantly affected are those concerned with body posture and movement; persons with PD, therefore, have largely movement-related symptoms (tremors, slowness of activities, stiffness of limbs, loss of balance, difficulty walking, etc.).

PD generally affects the aging population who are more than 50 years old; the chances of developing PD increase as a person's age advances. However, around 10-15% of persons with PD have their symptoms starting at ages younger than 50 years.



Even those in their 30s or younger can develop PD, though this is not very common. PD is not contagious, you cannot get PD by touch or sharing articles and living spaces with a person with PD. Although sometimes PD can run in families, this is very rare (10-20%).

PARKINSONISM AND PARKINSON'S DISEASE

Although often used interchangeably, the terms 'parkinsonism' and 'Parkinson's disease' denote different things. Parkinsonism is used to describe a constellation of symptoms—including slowness in movement, stiffness of limbs, tremors and walking difficulty. These symptoms of parkinsonism may occur due to different causes, such as stroke, brain tumours, some medications and diseases like PD. Parkinson's disease is the commonest cause of parkinsonism. There are other neurodegenerative diseases that can manifest the symptoms of parkinsonism, such as Progressive Supranuclear Palsy (PSP), Multiple System Atrophy (MSA), Dementia with Lewy Bodies (DLB) and Corticobasal Degeneration (CBD).

These diseases are generally called 'atypical parkinsonism' to differentiate them from PD. While persons with PD receive good benefit from medications such as levodopa, those with atypical parkinsonism generally do not show such a robust response. Clinical examination by specialists along with suitable

investigations can help to establish the diagnosis of PD and rule out other causes of parkinsonism.

WHAT HAPPENS IN THE BRAIN IN PD?

The symptoms of parkinsonism occur largely due to the deficiency of a chemical called dopamine in the brain. Dopamine is a molecule synthesised by certain nerve cells in the brain, and it is important for communication between nerve cells, particularly those involved in movement control. In persons with PD, special nerve cells in the region of the brain called "substantia nigra" that synthesize dopamine, die off prematurely. This reduction in the number of cells is a slow process, and the symptoms of PD become manifest only when 70-80% of the substantia nigra cells are already lost.

