

# Parkinson's Disease and Its Note

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## Parkinson's Disease Note

Parkinson's disease is a brain disorder in which damage of nerve cell is observed. This brain disorder leads to shaking, stiffness, and difficulty with walking, balance, and coordination. They may develop mental changes and behavioural changes, sleeping problems, depression, memory difficulties, and fatigue. The effect is more observed in men than women.

What causes Parkinson's disease? It occurs when neurons or nerve cells in brain which controls movement will become non-functional or death of cells occur. Nerve cells produce dopamine, when the death of neuron/nerve cell occurs it produces less amount of dopamine. The production of dopamine which involve in the movement is not known yet.

People with Parkinson's also lose nerve endings which produces norepinephrine, which is the main chemical messenger of sympathetic nervous system, and also it controls automatic functions of the body, such as heart rate and blood pressure. The less production of norepinephrine might help in explaining some of the non-movement features of Parkinson's disease, like fatigue, blood pressure, less movement of food through digestive tract, sudden drop in the blood pressure when a person with Parkinson's disease stands up from a sitting or lying-down position. Lewy bodies are the cells found in the Parkinson's people and unusual clumps of protein alpha-synuclein. Scientists are trying to study on the normal & abnormal functions of alpha-synuclein and its relationship in genetic mutations that impact Parkinson's disease and Lewy body dementia. In some cases Parkinson's appear to be hereditary, and few can be traced to specific genetic mutations, in most of the cases, disease occurs randomly and does not run in the families. There are four major symptoms in Parkinson diseases. They are as follows

- Tremor (trembling) in hands, arms, legs, jaw, or head
- Stiffness of the limbs and trunk
- Slowness of movement
- Impaired balance and coordination, sometimes leading to falls
- Depression
- Emotional changes
- Difficulty in swallowing
- Difficulty in Chewing
- Difficulty in Speaking
- Urinary problems
- Constipation
- Skin problems
- Sleep disruptions
- Mental changes

Parkinson's disease can be diagnosed depends on patient medical history & neurological examination. Currently, there are no laboratory tests to diagnose non-genetic cases.

There is no cure for Parkinson's disease. Few therapies may relieve from the disease or symptoms. Therapy used for Parkinson's disease is L-dopa or Levodopa. This drug helps in production of dopamine in the nerve cell which is impaired. Carbidopa is also used in the treatment along with L-dopa. Individual with Parkinson's disease should continue taking of L-dopa till their doctors advice to stop.

Medicines used for Parkinson's disease are

- Drugs that increase the level of dopamine in the brain
- Drugs that affect other brain chemicals in the body
- Drugs that help control nonmotor symptoms

Some other medicines like

- Dopamine agonists to mimic the role of dopamine in the brain
- MAO-B inhibitors to slow down an enzyme that breaks down dopamine in the brain
- COMT inhibitors to help break down dopamine
- Amantadine, an old antiviral drug, to reduce involuntary movements
- Anticholinergic drugs to reduce tremors and muscle rigidity

Individual who do not respond to the treatment will go for Deep Brain Stimulation (DBS). It is a surgical process by which doctor insert electrodes in chest. Electrodes stimulates brain without pain which helps to patient in movement, rigidity, slowness.

Other therapies also used as part of treatment. They are

- Physical therapy
- Occupational therapy
- Speech therapy

## Recommendations

- Healthy diet
- Regular exercises

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