



Parkinson's Disease 101

What is Parkinson's Disease ?

- PD is a type of movement disorder, that can affect ability to perform daily activities
- Symptoms that affect **motor** (movement) and **non-motor**
- Most common type of symptoms are **tremor**, rhythmic shaking, **rigidity**, stiffness of the muscles and **bradykinesia**, slowness of movement
- Person with PD will have trouble with posture, balance, coordination and walking.
- Common non-motor symptoms, sleep, constipation, anxiety, depression and fatigue
- These symptoms differ greatly from person to person
- Most people develop symptoms after the age of 50
- Second most common neurodegenerative disease, after Alzheimer's

How PD affects the brain ?

- PD is a neurodegenerative disease; loss of neurons which leads to a loss of dopamine.
- Dopamine helps to regulate movement and maintain normal movement patterns
- Loss of dopamine is reason many treatments for PD are intended to increase dopamine levels in the brain

Theories About the Cause

- Most of the causes are still unknown
- Scientists believe both genetics and environment interact to cause PD
- Genetics, various types
- Environment, significant exposure to chemicals, repeated head injuries

Other Risk Factors

- Main risk factor is age, more common after the age of 50
- Men have a higher risk. 1.5 times greater than women
- More white than African-Americans or Asians
- Hepatitis B and Hepatitis B patients have increased incidence of PD

Symptoms

Motor

- Five primary **motor** symptoms of PD; Tremor, Rigidity, Bradykinesia, Postural Instability and walking/gait
- **Tremor** (rhythmic shaking), typically starts in the foot, hand and spreads to the rest of the body
- **Resting tremor**, strongest when the affected limb is at rest, may become less apparent during movement



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- **Action tremor**, tremor that occurs with intentional movement
- **Internal tremor**, not noticeable to others
- **Essential tremor**, tremor is the major symptom, typically an action tremor, different disorder than PD, sometime mistaken
- Resting tremor, is hallmark of PD, strong clue that for diagnosing PD
- **Rigidity**, tightness or stiffness of the limbs or torso
- **Bradykinesia**, slow movement
- **Postural Instability**, Inability to maintain steady, upright posture. More common in later stages of PD
- **Retropulsion**, tendency to list or fall back
- **Walking/Gait Difficulties**, Decrease in the natural or walk of one or both arms when walking
- **Vocal symptoms**, the voice may become softer or may start to fade
- In advanced PD, speaking may become rapid with words crowded together and stuttering may occur
- **Micrographic**, handwriting is vey small

Non-Motor

- **Hyposmia**, Reduced sensitivity to odors
- **Anosmia**, loss of smell

Sleep Problems

- **Primary insomnia**, inability to sleep
- **Secondary insomnia**, inability to stay asleep
- PD residents may take cat naps during the day, which would to inability to sleep at night

Depression and Anxiety

- Depression fairly common non-motor symptom

Fatigue

- Fatigue complex symptom also associated with depression and sleep disorders

Mental Processes

- Residents have problems with thinking, word finding and judgement
- Confusion may be a side effect of the PD medications
- 40% of the patients will develop cognitive decline
- Some experience Parkinson's psychosis, delusions or auditory/visual hallucinations



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Weight Loss

- Weight loss is common in later stages of PD
- Different causes for weight loss, **anorexia**, decreased appetite, swallowing difficulties, GI problems such as chronic constipation or depression
- Constant motion of tremors may burn many calories leading to weight loss

Gastrointestinal Issues

- Constipation is common due to the slow movement of the digestive system
- Reduced swallowing and drooling or collection of saliva are often present
- Nausea and vomiting are most frequent when treatment for PD begins

Lightheadedness

- Often occurs in PD
- Related to body's inability to quickly regulate blood pressure from a sitting or lying position

Urinary Issues

- **Urinary infrequency**, need to urinate often and **urinary urgency**, must urinate right away
- Urinary problems may be worse at night when a person is lying down
- **Urinary hesitancy**, slowness of urination

Intimacy

- May experience a decrease in sexual desire

Sweating

- Excessive sweating is common, especially in the upper body

Melanoma

- May have an increased risk



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Treatments

- There is no cure for PD
- At every stage, important to maintain physical activity
- Healthy eating is always encouraged
- Incorporate use of antioxidants in daily diet
- There are several classes of medications for successful treatment of motor symptoms
- Deep Brain Stimulation (DBS), used for advanced stages of PD and who retain a good amount of levodopa. This procedure rebalances the circuits, restoring normal movement control to some degree. Involves the implantation of permanent, thin electrodes into selected parts of the brain. Battery-operated pulse generators are implanted under the skin of the chest or abdomen.