PARKINSON'S DISEASE INFORMATION

A PATIENT RESOURCE

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EDUCATION ON PARKINSON'S DISEASE

OVERVIEW OF PARKINSON'S DISEASE

Parkinson's Disease is a slowly progressing condition that affects the brain. While it is not life-threatening, there is currently no cure. If not managed well, it can become very challenging. Parkinson's impacts both movement and thinking skills, which means it can affect all parts of daily life.

KEY POINTS

Progressive Condition: Parkinson's gets worse over time and affects how you move and think.

Dopamine Depletion: It reduces the brain's ability to make dopamine, a chemical that helps control movement. This is usually helped by dopaminergic medication that is increased throughout your life journey with Parkinson's Disease.

Lewy Bodies: Some people with Parkinson's have extra brain cell problems called Lewy Body Clusters, which can make symptoms worse.

Medication: Medicines like levodopa are often used to help manage symptoms by increasing dopamine levels.

Occupational Impact: Understanding Parkinson's helps in creating strategies to keep you independent and improve your quality of life.

NEUROLOGICAL IMPACT

Parkinson's mainly affects the part of the brain that produces dopamine. This area, called the basal ganglia and substantia nigra, helps control complex movements and automatic body functions. With Parkinson's, these areas stop working well, which makes movement difficult.

The substantia nigra becomes lighter in color and produces less dopamine. Dopamine is important for smooth and controlled movements. Without enough dopamine, you may experience symptoms like shaking, stiffness, and slow movement.

MEDICATION AND MANAGEMENT

As Parkinson's progresses, your doctor will likely prescribe medications like levodopa. These medicines help replace the dopamine your brain isn't making enough of. They can greatly improve movement and make daily life easier.

FUNCTIONAL IMPLICATIONS

Understanding how Parkinson's affects your brain and body can help you and your healthcare team manage the condition better. This knowledge builds your confidence in handling the symptoms and maintaining your independence. By staying informed, you can find ways to keep doing the activities that are important to you, even with the challenges of Parkinson's Disease.

EARLY SYMPTOMS

Nonmotor Symptoms: These include loss of smell, constipation, sleep disorders, mood changes, urgent need to urinate, and low blood pressure when standing up.

KEY SYMPTOMS OF PARKINSON'S DISEASE

Tremor: Shaking, often in the hands, called "resting tremor" or "pill rolling." It usually stops when you move or sleep but can get worse with stress.

Postural Instability: You might have rounded shoulders, a forward head, a stooping posture, and trouble with balance and reflexes, making it harder to walk normally.

Bradykinesia: This means very slow movement and is the main symptom doctors look for when diagnosing Parkinson's. It can make starting and doing movements very difficult.

Muscle rigidity and cramps: Your muscles can feel stiff and tight, causing a jerky or "cogwheel" movement pattern.

Decreased Muscle Coordination: The muscles that should work together (agonist and antagonist muscles) don't coordinate well, making movements less smooth and more difficult. This is true even with medication or treatments like deep brain stimulation.

MOVEMENT AND MOBILITY ISSUES

Gait Disturbances: Look for small steps (shuffling), uneven steps (instability), freezing (suddenly stopping and having trouble starting again), and general difficulties in walking and posture.

MANAGING SYMPTOMS

Understanding these symptoms and working with your healthcare team can help manage Parkinson's. Medications like levodopa can help, but therapy is often needed to address balance, mobility, and daily activities. Staying informed and involved in your treatment can help maintain independence and improve daily functioning.

THERE ARE 5 STAGES OF PARKINSON'S DISEASE.

Stage one: Symptoms affect only one side of the body.

Stage two: Symptoms begin affecting both sides of the body, but balance is still intact.

Stage three: Symptoms are mild to moderate and balance is impaired, but the person can still function independently

Stage four: Symptoms cause severe disability, but clients can still walk or stand without assistance

Stage five: Symptoms cause the client to become wheelchair-bound or bedridden, unless assisted.

PHYSICAL HEALTH

LSVT BIG and LOUD: Programs like these can help improve movement and speech. Even if you don't follow these programs, using the techniques they teach can be beneficial.

Postural Control: Practice activities that involve reaching for and retrieving objects of different sizes, shapes, and weights to improve balance and coordination.

Reaction Time and Agility: Work on exercises that enhance your reaction time and agility.

Managing Muscle Stiffness: Use moist heat and slow stretching to reduce muscle stiffness and prevent contractures. Start these strategies early.

COGNITIVE HEALTH

Protecting Cognitive Abilities: Parkinson's can affect memory and thinking skills. Engage in activities that stimulate your brain and help with executive functioning and dual-tasking.

Repetition and Learning: Use repetition, errorless learning (practice without making mistakes), and rhythmic cues to help you remember tasks.

Memory Strategies: Train yourself in both internal (like visualization) and external (like using reminders) memory techniques.

Clear Communication: Ask people to speak slowly and clearly.

PSYCHOSOCIAL SKILLS

Group Support: Join support groups to share experiences and gain support from others with Parkinson's.

Addressing Social Barriers: Work on overcoming feelings of embarrassment and learn to advocate for yourself. Therapy can help boost your confidence.

Therapeutic Conversations: Spend extra time with your therapist discussing your weekly highs and lows.

ENVIRONMENT-BASED INTERVENTIONS

Home Modifications: Make changes to your home to remove barriers and make daily activities easier. Take care not to shrink your life space (example: cut off certain areas of your home, stop using stairs, limit community activity, etc).

Equipment: Avoid using durable medical equipment unless absolutely necessary. Focus on adaptive techniques to improve mobility and independence. If you don't use it, you lose it! If you are using a cane or walker, try an alternative support option for balance and stability during intentional activity program.

Life Space: Use tools like the Life Space Questionnaire to identify and overcome barriers in your living environment. Discuss these concerns with your healthcare provider.

OCCUPATION-BASED INTERVENTIONS

Daily Activities: Focus on improving activities like walking, turning, getting in and out of bed, dressing, and reaching. Use tools like a metronome to help with timing and coordination.

Minimizing Freezing: Reduce environmental distractions and establish a consistent routine to help minimize freezing episodes.

Employment: Work with your therapist to identify barriers caused by Parkinson's in your workplace. Use tools like the Kawa River Model and Self-Efficacy Scale to set goals and track progress.

ASK YOUR THERAPIST ABOUT THE FOLLOWING METHODS

SPEED AND SENSORY AWARENESS

Goal: Increase speed, acceleration, and sensory awareness of movement.

MUSCLE FORCE PRODUCTION AND ADLS PARTICIPATION

Goal: Increase muscle strength, communication, cognitive function, and participation in daily activities (ADLs); decrease bradykinesia.

Activities: Stretching, Walking, Riding a bike, Standard resistance training, High-force eccentric training

GAIT AND RHYTHMICITY IMPROVEMENT

Goal: Enhance step rhythm and walking ability.

Method: Rhythmic Auditory Stimulation (RAS) using sensorimotor synchronization (SMS) as gait cues.

Benefits: Improves step length, duration, speed, and variability.

POSTURAL CONTROL AND BALANCE

Goal: Improve postural control and automaticity.

Activity: Stand on a moving platform (cushion, rocker board, or Bosu) and perform a motor task like force-matching precision grip while maintaining balance.

MOBILITY AND STANDING BALANCE

Goal: Improve symptoms, mobility, and standing balance.

Activities:

- Two-handed coordination exercises with end-weighted sticks
- Stabilization and spinal mobilization exercises
- Trunk and limb movement with correct posture
- Strengthening exercises with and without added weights
- Movements with visual pacing, standing, walking, running, and jumping on different surfaces

POSTURE IMPROVEMENT

Benefits: Enhance control, modify trunk inertia, and improve dual-tasking abilities.

Activities:

- Stand to sit on unstable surfaces while holding weighted hand tools
- Rhythmic and reciprocal limb and trunk movements with increasing speed
- Stepping into the eye of a rope ladder laid on unstable surfaces
- Stepping onto exercise blocks of varying stiffness and height

COMBINING ACTIVITIES FOR DUAL TASKING

Combine any of these activities to create dual-tasking exercises that reflect the multi-system requirements of daily activities.

PROPRIOCEPTION ENHANCEMENT

Rationale: Improve joint position sense, force, and velocity awareness.

Activities:

- Walking through an agility ladder with and without trunk rotation
- Rapid response to visual and auditory cues
- Concurrent arm and trunk movements
- Predictable and unpredictable start and stop of movements
- Exercises using hand-held sticks with ball-shaped weights

COORDINATION IMPROVEMENT

Rationale: Improve reactive movements, anticipatory postural adjustments, and multisensory stimulation.

Activities:

- Reactive movements to external auditory and visual stimuli
- Anticipatory postural adjustments
- Action observation and auditory cueing

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