

Clinical Resource Guide: Parkinson's Disease Overview

INTRODUCTION TO PARKINSON'S DISEASE

Parkinson's disease (PD) is a chronic and progressive neurodegenerative disorder that primarily affects movement but also encompasses a range of non-motor symptoms. The hallmark characteristic of PD is the loss of dopamine-producing neurons in the brain, leading to an imbalance in neurotransmitters. This results in the classic motor symptoms of tremors, bradykinesia (slowness of movement), rigidity, and postural instability. Over time, individuals may also experience non-motor symptoms such as cognitive decline, mood disturbances, sleep issues, and autonomic dysfunction.

The pathology of PD involves the accumulation of misfolded alpha-synuclein protein in Lewy bodies, which contributes to neuronal damage and results in functional impairment. The disease progression varies among individuals, impacting their quality of life and daily functioning differently.

Pharmacist Corner Objectives

- 1.) Identify common symptoms experienced by patients with advanced Parkinson's disease in preparation for optimizing supportive care
- 2.) Implement nonpharmacologic interventions to assist with symptom management

CAUSES AND CONTRIBUTING FACTORS

The etiology of PD is multifaceted, involving a complex interplay of genetic predisposition, environmental influences, and age-related factors. While most cases are sporadic, certain genetic mutations (e.g., PARK genes) have been associated with familial PD cases, contributing to the risk of developing the disease.

Environmental factors, including exposure to pesticides, herbicides, industrial chemicals, and metals have been linked to an increased risk of developing PD. Additionally, head injuries, rural living, and certain occupations (e.g., farming, welding) have been identified as potential risk factors.

Aging is the most significant risk factor for PD, with most cases occurring in individuals over the age of 60. The aging process itself, along with associated oxidative stress and mitochondrial dysfunction, may play a role in the onset or progression of the disease.

ASSESSMENT AND HOSPICE ELIGIBILITY

Assessing the progression of PD is essential in determining hospice eligibility for patients. The following criteria are reviewed when considering hospice eligibility:

PARKINSON'S PROGRESSION AND PRESENTATION	
Functional Diagnosis	Deterioration in activities of daily living (ADLs) and instrumental activities of daily living (IADLs) due to PD-related symptoms
Intractable Symptoms	Increased prevalence of severe and incapacitating symptoms such as severe dysphagia, profound rigidity, intractable falls, and advanced cognitive decline
Recurrent Complications	Increased frequency of complications like aspiration pneumonia, recurrent falls leading to injuries, and complications from immobility
Comorbidities Impacting Prognosis	Increased impact of comorbid conditions on the overall prognosis, contributing to a decreased quality of life of the patient

Assessing disease progression for hospice eligibility involves evaluating the patient's functional decline, worsening of symptoms despite optimal treatment, recurrent complications like pneumonia or recurrent falls, and presence of comorbidities affecting prognosis. Common and debilitating symptoms of Parkinson's are listed below. These specific symptoms provide insight into the hospice appropriateness of the patient and treatment plan moving forward.

SYMPTOM	DESCRIPTION
Severe Dysphagia	Difficulty swallowing, increasing aspiration risk
Profound Rigidity	Extreme muscle stiffness, hindering/limiting mobility
Intractable Falls	Frequent falls resulting in compromised patient safety
Advanced Cognitive Decline	Presentation of dementia, affecting daily activities and independence

NONPHARMACOLOGIC MANAGEMENT IN HOSPICE

In hospice settings, the focus of care for individuals with PD shifts towards enhancing comfort and quality of life while minimizing distress for both patients and caregivers. Nonpharmacologic interventions aim to provide holistic support without causing additional burdens. Interventions include:

NONPHARMACOLOGIC INTERVENTION CONSIDERATIONS	
Range-of-Motion Exercises	Facilitating gentle exercises to maintain flexibility, prevent contractures, and improve circulation, thereby reducing the risk of pressure ulcers
Positioning Techniques	Employing proper positioning to prevent pressure ulcers, alleviate discomfort, and maintain joint health.
Music/Art Therapy	Providing emotional comfort, relaxation, and a means of expression for patients dealing with the emotional toll of their condition.

Additionally, counseling and support services for both patients and caregivers are integral in addressing emotional, social, and psychological needs.

SUMMARY

Parkinson's disease is a multifaceted condition that impacts both motor and non-motor functions. Patients with Parkinson's disease on hospice have commonly experienced significant functional decline, severe symptoms, recurrent complications, and the impact of comorbidities on prognosis and quality of life. In hospice care, non-pharmacologic interventions focus on improving comfort and quality of life, while medication management faces challenges related to administration and potential adverse effects in this setting.

References:

1. Parkinson's Disease: Diagnosis and Management. National Institute for Health and Care Excellence (NICE) Guidelines.
2. The Parkinson's Foundation. Available at: <https://www.parkinson.org/living-with-parkinsons/treatment/prescription-medications>. Accessed 12/8/2023
3. McMahon L, Blake C, Lennon O. Nonpharmacological interventions for respiratory health in Parkinson's disease: A systematic review and meta-analysis. *Eur J Neurol*. 2021 Mar;28(3):1022-1040
4. Kobylecki C. Update on the diagnosis and management of Parkinson's disease. *Clinical Medicine*. 2020. 20 (4): 393-398.
5. Grosset DG, Macphee GJ, Nairn M; Guideline Development Group. Diagnosis and pharmacological management of Parkinson's disease: summary of SIGN guidelines. *BMJ*. 2010 Jan 12;340: b5614