

Clinical Guidelines

Critical Information for Caring for Residents with Parkinson's

Parkinson's disease (PD) is a slowly progressive disorder, generally associated with trembling limbs, stiffness, muscle rigidity, and slow movement. An accelerated loss of the brain chemical dopamine causes the disease. To date there is no known cause and no cure. Researchers believe that both environmental and genetic factors may play a role in the development of the disease.

Characteristics of Parkinson's Disease

Rigidity	Masked face (shows little or no emotion with a staring expression)
Tremor	Drooling
Bradykinesia (slow movements)	Difficulty swallowing
Difficulty with balance	Constipation
Depression	Difficulty voiding
Sleep disturbances	Dizziness
Dementia	Stooped posture
Restless legs	Swollen feet
Speech problems (vocal softness, slurred and indistinct words)	Excessive sweating
On-off symptoms (able to perform 1 minute but not the next; may be related to timing of medications)	Difficulty walking (decrease in the natural arm swing, short shuffling steps, difficulty turning, abrupt "freezing" spells)

Complicating Factors

Factors that may worsen the resident's condition are:

- Not taking medications (particularly Sinemet [carbidopa/levodopa]) on time
- Taking Sinemet with protein or iron
- Taking Sinemet too soon or too late (more than 15 minutes) from the prescribed time
- Stress, anxiety, lack of exercise, and/or the need for rest
- Taking incompatible medications

Medication and Dietary Schedule

Advise patients (or their caregivers) of the importance of taking the medication(s) promptly at the times specified. The timing of the medication helps minimize symptoms and "off" times. For example, Sinemet must be taken 30 to 60 minutes before or 2 hours after meals because protein prevents the maximum amount of dopamine from reaching the brain. If a hospitalized patient is not able to swallow, the medications may need to be crushed and

Medications Commonly Used to Treat PD

Dopamine

carbidopa/levodopa (Sinemet)
 Parcopa
 MAO-B Inhibitors
 selegiline (Eldepryl)
 rasagiline (Azilect)

Dopamine Agonists

opinirole (Requip)
 pramipexole (Mirapex)
 apomorphine (Apokyn)
 rotigotine (Neupro)
 pergolide (Permax)
 bromocriptine (Parlodel)

COM-T Inhibitors

entacapone (Comtan)
 tolcapone (Tasmar)
 Comtan + Sinemet (Stalevo)
 Antiviral
 amantadine (Symmetrel)

Proposed Changes to Parkinson's Disease Guidelines

Parkinson's disease (PD), a progressive neurological disorder, robs the body of its ability to move freely and purposefully. Numerous complicating factors, which may include cognitive changes and dementia, make people with PD prime candidates for long-term care (LTC) day care or assisted living residency.

Parkinson's Resources of Oregon (PRO) is a regional nonprofit organization working to provide support and services to families dealing with a diagnosis of PD. Oregon Health & Sciences University's (OHSU) Parkinson Center of Oregon is a nationally recognized leader in PD care and research.

Under the leadership of the Parkinson's Advocacy Committee, whose members demonstrate personal as well as professional experience with PD, we ask the Seniors and People with Disabilities of the Department of Health and Human Services (SPD/DHS) to adopt changes in Administrative Rules for (various) LTC settings that have the potential to dramatically improve functioning for residents living with PD and, decreasing facility employee workload.

Summary of Proposed Rules Changes

To raise and standardize the level of care people with PD receive in a residential setting to a minimally acceptable level, PRO, with the support of the medical experts at OHSU's Parkinson Center of Oregon, submits that the following changes be adopted on a state-wide level:

- 1. Medication Timing:** Maximum efficacy of many PD medications requires administration on a tightly coordinated schedule. *Insert language to allow for variations in timing no greater than 15 minutes.*
- 2. Nutrition Services:** Medication absorption is highly correlated with levels of protein and iron existing in the blood stream. *Insert guidelines to support coordination of dietary services to avoid protein and iron supplement consumption 1 hour before or 2 hours after medication.*

3. Training: PD symptom manifestation is highly variable from individual to individual. *Provide that all staff members involved with the care of a person with PD have a basic understanding of the complexities of PD and how to manage symptoms to maximize wellness for the patient.*

Background

Of all the symptoms of PD, motor fluctuations rank among the most distressing, disabling, and difficult to manage. The need to closely control medication dosage and timing has long been understood by researchers and physicians skilled in treating people with PD.

John Nutt, MD, director of the Parkinson Center of Oregon at OHSU, has reported (with colleagues) that "The primary cause of motor fluctuations is the short half-life of levodopa (90-120 minutes). Treatment for these fluctuations focuses on trying to improve absorption, altering timing of doses, and prolonging the effect of every dose." In a *New England Journal of Medicine* (1984) article, the authors further indicate that a high-protein meal can reduce levodopa absorption and limit its ability to cross the blood-brain barrier.

Clearly, medication administration and timing, and nutrition services play an important and interrelated role in maximizing functional ability for people with PD. Proper medication administration can mean the difference between a resident frozen in place or one mobile and able to demonstrate independence of care or the need for reduced assistance.

The current guidelines and practice can result in grossly and even dangerously inadequate care because of preventable immobility. We recognize that there may be hurdles to implementing these changes—not the least of which include concerns over an already stretched staff force in the majority of LTC settings. However, a more mobile resident can lessen employee workload and prevent emergent care situations.

administered by a stomach tube (exception: Sinemet CR must not be crushed) or the dissolvable form—Parcopa—can be ordered. If intravenous protein (TPA) is being considered for a patient who takes Sinemet, the resident's neurologist should be consulted about changing the dosage.

Medication Side Effects

PD medications all have very similar side effects: nausea, dizziness, mental changes, hallucinations, confusion, involuntary movements, loss of appetite, dry mouth, and lowered blood pressure. Warn the patients to contact their physician if these occur. Medication

Medication administration and timing and nutrition services play an important and interrelated role in maximizing functional ability for people with PD.

can be changed to lessen these side effects. Advise the patient, family, and caregivers to keep a medication diary noting symptoms, timing of medication administration, and effectiveness of medication in relieving symptoms.

Important Medication Information

Medication concerns are not limited to the following notes; however, these are some of the more common medication reactions that some healthcare providers are not aware of:

- **MAO-B Inhibitors (selegiline, rasagiline):** DEMEROL MUST NEVER BE GIVEN WITH MAO-B inhibitors. To be safe, MAO-B inhibitors should be stopped for 2 weeks prior to surgery.
- **COM-T Inhibitors (Stalevo/Comtan/Tasmar):** These medications can cause severe diarrhea that will resolve once the medication is changed.
- **Dopamine Agonists:** Warn patients, the family, and caregivers to watch for possible obsessive behavior, hallucinations, and psychosis and report them immediately.
- **Atypical Anti-psychotics (Seroquel/Clozapine):** These drugs help control behavioral problems in people with PD, but careful consideration by the physician, family, and patient is needed prior to prescribing them.
- **Narcotics:** Although pain control is the top priority, be aware that narcotics can more easily precipitate confusion in people with PD.

Parkinson's and Surgery:

1. Stop selegiline 2 weeks prior to surgery.
2. There should be no reason to skip medications prior to surgery even if directions are NPO (nothing by mouth) for 6 to 10 hours prior to surgery. Discuss this with the patient's surgeon or anesthesiologist.
3. Restart medications (except selegiline) as soon as possible after surgery even if NPO; discuss with the patient's surgeon.
4. Be aware that PD patients have a lower threshold response to analgesics (sedation/pain medications) and could experience hallucinations; however, this is not a contraindication to their administration.

Other medications that may worsen Parkinsonian symptoms and should not, in general, be prescribed for a person with PD include:

Neuroleptics

haloperidol (Haldol)
chlorpromazine (Thorazine)
thioridazine (Mellaril)
molindone (Moban)
perphenazine (Trilafon)
perphenazine and amitriptyline (Triavil)
thiothixene (Navane)
fluphenazine (Prolixin)

GI/Antinausea Drugs

metoclopramide (Reglan)
prochlorperazine (Compazine)
trimethobenzamide (Tigan)

Warning: Diathermy is contraindicated; MRIs can only be done following strict guidelines. **MPM**

Adapted with permission from a patient-focused publication developed by Parkinson's Resources of Oregon and Oregon Health & Sciences University's Parkinson Center of Oregon. For more information see www.parkinsonsresources.org or www.ohsu.edu/pco. See also the accompanying article titled, *Proposed Changes to Parkinson's Disease Guidelines*.

The National Parkinson Foundation provides a quarterly report about PD with useful information for healthcare providers. Visit the organization's Web site to read or download a copy of the Winter 2007 issue of *The Parkinson Report* at www.parkinson.org/NETCOMMUNITY/Page.aspx?pid=246&srcid=201.