PMD Alliance
Parkinson & Movement Disorder Alliance

Hospitalization and Parkinson's: What to Do, What to Know

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Why is Hospitalization for the PWP an important topic?

- PWP are hospitalized at a greater rate
- PWP often have longer hospitalizations
- PWP are at increased risk for complications while hospitalized
  - Falls, infection, delirium etc.
- PD meds are frequently ordered incorrectly while hospitalized
- PWP may be given medications that counteract PD meds
  - Metoclopramide for nausea
- PWP may be given medications that lead to an exacerbation of pre-existing problems in PD or new problems
  - Narcotics can cause confusion and low BP
- Many of the risks associated with hospitalization in PD are preventable

Why are PWP Admitted to the Hospital?

Table 1 Reasons for admissions to the Royal Adelaide Hospital, in patients in whom a secondary diagnosis of Parkinson's disease was recorded in the discharge summary for 645 admissions, during the periods 1999, 2002 and 2004

Reasons	1999	2002	2004	Total	%
Fracture/falls	33	30	38	81†	13
Pneumonia	23	31	24	78†	12
Cardiac diseases	25	36	14	75	12
Gastrointestinal disorders	22	24	25	71	11
Neoplasia	19	11	16	46	7
Urinary disorders	17	17	18	52	8
Dementia	3	10	9	22†	3
Encephalopathy‡	17	11	17	45†	7
Syncope	12	8	6	26†	4
Haematological disorders	9	5	5	19	3
Stroke	7	12	4	23	4
Miscellaneous	44	50	23	117	18

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BRIEF COMMUNICATION

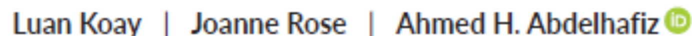
Reasons for admission to hospital for Parkinson's disease

J. A. Temlett and P. D. Thompson

SYSTEMATIC REVIEW

WILEY THE INTERNATIONAL JOURNAL OF CLINICAL PRACTICE

Factors that lead to hospitalisation in patients with Parkinson disease—A systematic review


Luan Koay | Joanne Rose | Ahmed H. Abdelhafiz

Admission ward	Number of admissions	Main causes of admissions
General ward	1991 admissions	• Falls 30% • PD-related 16.6% • Cardiovascular 13.8% • Infections 9.3% • Gastrointestinal 5.7% • Urinary disorders 5.2% • Neoplasia 5% • Cerebrovascular 3.7% • Surgical 1.5% • Other 9.2%
Neurological ward	326 admissions	• Motor complications 42.3% • Psychiatric complications 21.2% • Infections 18.7% • Falls 11% • Other neurology 6.8%

Medication Problems

- Many PWP takes several meds for PD and the timing is important (mainly for carbidopa/levodopa)
- Non-neurology MDs and other health care professionals are often unfamiliar with PD meds and the importance of timing
- Failure to appreciate the differences in the types of carbidopa/levodopa
  - Carbidopa/levodopa IR 10/100, 25/100, 25/250
  - Carbidopa/levodopa ER 25/100, 50/200
  - Rytary

Medication Problems

- Risk of stopping PD meds abruptly
  - Parkinson's pyrexia syndrome
  - Fever, confusion, stiffness
- Adverse interactions
  - Drugs that block dopamine
    - Metoclopramide
  - Potential interactions with MAO-b inhibitors (rasagiline, selegiline, safinamide and certain opioid analgesics (meperidine, tramadol, methadone)

Medication Problems

- **In general, PWP (especially advanced PD, and PD with dementia) are more sensitive to medications contributing to:**
  - **Confusion (delirium)**
  - **Hallucinations and delusions**
  - **Somnolence or insomnia**
  - **Orthostatic hypotension (low BP with standing)**
  - **Fall risk (benzodiazepines)**

Medication Problems: How to Avoid

- Be aware !!!
- Don't assume, check!!
- Good communication is the key
- Make sure to bring a list of meds, the actual meds and the times taken to the hospital (keep this list in wallet/purse for emergencies)
- Review the orders with MD/RN and keep track of all of the medications being dispensed and the timing
  - Ask questions!!
- Minimize the addition of new medications especially those that work on the brain (pain meds, sleeping meds, muscle relaxants, certain antibiotics, others)
- Get your neurologist/NP/RN involved at the beginning of the hospitalization and throughout

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Review

Management of the hospitalized patient with Parkinson's disease: Current state of the field and need for guidelines☆

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Infection

- Aspiration pneumonia
  - Risk factors
    - Pre-existing difficulty swallowing (dysphagia)
      - Coughing while eating or drinking
    - More advanced PD especially with dementia
    - Difficulty managing secretions/drooling
    - Difficulty speaking (dysarthria)
    - Prolonged immobilization during hospitalized
    - Delirium
  - Early speech/swallowing/dietary evaluation
- Urinary tract infection
  - Preexisting bladder dysfunction
  - Urinary catheter
- Pressure/Decubitis ulcer
  - Aggressive prevention and treatment

Delirium
(acute confusional state, encephalopathy)

- Acute confusion and inattention
- Disorientation
- Poor memory
- Agitation often intermixed with lethargy
- Hallucinations and delusions
- Inappropriate behavior
- Impaired sleep-wake cycle
- How to test?
  - Ask time of day
  - Say mos of the year backwards

Delirium

- Usually multifactorial
  - Infection
  - Dehydration
  - Medications
  - New environment
  - Electrolyte abnormalities
  - Blood loss
  - Low oxygen
  - Impaired nutrition/vitamin deficiency
- Management
  - Reassurance and education
  - Waxes and wanes but generally slowly improves
  - Minimize new medications
  - Try to keep regular sleep-wake cycle
  - Have family member or sitter available
  - Minimize sedatives if agitated

Falls in the Hospital

- More common in those with prior falls/imbalance and/or prolonged immobility while hospitalized especially in the ICU (critical illness weakness)
- May be due to low BP
- May occur in the setting of delirium (getting out of bed without assistance)
- Staff should recognize a person at high fall risk
- Early use of PT and OT
- Walker (ideally a rollator)

Orthostatic Hypotension
(Low BP with standing)

- Common complication of PD and its treatment
- Common but often unrecognized problem in the hospital
- Dizziness, lightheadedness and feeling of impending fainting while standing
- Complication of dehydration and medications
- Check BP lying and after standing for 3 minutes

Deep Venous Thrombosis (blood clot in leg vein)

- Typically seen in setting of immobility (post-op)
- Prevention is the key
  - Short-term use of anticoagulant such as SQ heparin
  - Pressure stocking or pneumatic device
  - Bed exercises to enhance movement
  - Early mobilization

Neuropsychiatric Problems

- Delirium
- New-onset or exacerbation of anxiety and depression
- Frustration, demoralization
- Hallucinations and delusions
- Sleep-wake disorders
  - Insomnia
  - Daytime sleepiness
  - REM sleep behavioral disorder

Challenges for the Spouse and Family while PWP is hospitalized

- Feelings of helplessness and hopelessness
- Poor communication with care team
- Fatigue and sleep deprivation
- Isolation/loneliness
- Extra responsibility
- Guilt

DBS and Hospitalization

- Inform care team
- Bring control device
- Contact with DBS physician/RN or system representative

Hospitalization in PD: Take Home Messages

- Try to prevent hospitalizations
  - Fall prevention
  - Recognize who is at risk for aspiration pneumonia
  - Early recognition and treatment of urinary tract infections
  - Prevention and early intervention for confusion, hallucinations and delusions
  - Those with advanced PD, particularly if there is associated dementia, are at higher risk for complications leading to hospitalization and at greater risk for complications in the hospitalized
  - Good communication with PD neurologist and other health care providers is essential

Hospitalization in PD: Take Home Messages

- Medication list and medications
- Careful scrutiny of medications while hospitalized
- Be aware of potential complications and discuss prevention/early management with health care team (who is in charge?)
- Early and ongoing involvement with your neurologist (telemedicine)
- Try to be at the hospital as much as possible and keep notes
- Don’t be afraid to ask questions

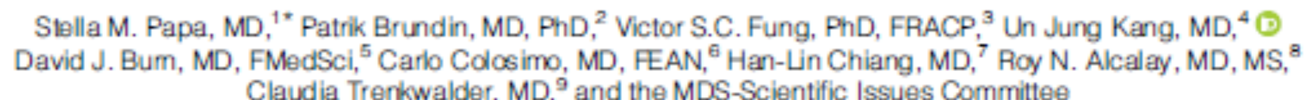
Action Point: Pack a Ready Bag

- Medication list
  - Include timing of carbidopa/levodopa
- Physician list
- Living Will/Advanced Directives
- Power of attorney or Guardian documents
- Branded medications
  - Rytary ®, Gocovri® (amantadine ER), Xadago® (safinamide)
- Eyeglasses; hearing aids
- Patient control device for DBS

Courtesy of Dr. Stephen Grill

VIEWPOINT

Impact of the COVID-19 Pandemic on Parkinson's Disease and Movement Disorders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Is the PD Population Particularly Vulnerable During the COVID-19 Pandemic?

It is too early to know whether COVID-19 will have long-term impacts on patients with PD and movement disorders. The increased vulnerability of the elderly and those with comorbidities, coupled with the increased prevalence of PD with age, raises concerns about the potentially heightened risks of COVID-19 in people with PD and other movement disorders. In addition, the ability to provide standard neurological care is being compromised by the strain on health care systems brought about by this pandemic.

There is currently insufficient evidence showing that PD by itself increases the risk of COVID-19. The experience in Lombardia, Emilia, and Veneto, the three

Concluding Remarks

Thus far, the comorbid diagnosis of PD itself or other movement disorders has not emerged as a specific risk factor for negative outcomes of COVID-19. The medical strategy for safety of patients with PD and the general elderly population is therefore not different and