PARKINSON DISEASE:
Guidelines for providers
Treating the Symptoms we **CAN** and **CANNOT** see

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BACKGROUND

Parkinson Disease (PD):
--Chronic, progressive, neurodegenerative disorder
--most common after Alzheimer’s disease.

--**1-2 million** people in United States suffer from PD (3% population older than 85 years)

--**Age** is strongest risk factor.
BACKGROUND

- Paucity of movements (Early Stage)
- Shuffling short steps (Mid Stage)
- Reliance on assistive devices (Late Stage)
BACKGROUND cont

- The annual economic impact of Parkinson’s disease is estimated at $10.8 billion

>>direct medical cost, prescription drug use and nursing home care

- Besides the importance of economic costs of PD is also the discussion of the impact on Health related quality of life (HRQOL)
• Improving the quality of medical care and how to pay for medical care are currently in the national spotlight

• Recently, the American Academy of Neurology (AAN) has released practice parameters to address quality of care issues in Parkinson’s Disease
  – They identified ten PD measures and highlighted both the content of the measure as well as how frequently the measure should be ascertained in the clinical setting
10 Parkinson disease measures

- Was the diagnosis of PD reviewed in the past year?
- Was the patient assessed for psychiatric disorders or disturbances?
- Was the patient assessed for cognitive impairment or dysfunction?
- Was the patient queried for symptoms of autonomic dysfunction?
- Was the patient queried for symptoms of sleep disturbances?
- Was the patient questioned about falls?
- Was the patient educated about rehabilitation services?
- Was the patient assessed for safety issues?
- Was the patient questioned about motor complications of medications?
- Was the patient offered a review of medication and surgical treatment options?
CLINICAL FEATURES OF PD:

--1.) **Resting tremor**

--2.) **Slowness of movement** (bradykinesia)

--3.) **Rigidity** and/or postural instability

Classically starts asymmetrically but contralateral side eventually affected.
CLINICAL FEATURES OF PD:

Resting tremor:
-- most common presenting symptom
-- rhythmic oscillatory involuntary movement ("pill-rolling")
-- usually distal upper extremities (LE, face, chin)
-- noticeable when speaking, walking, distracted or stressed
CLINICAL FEATURES OF PD:

Bradykinesia:
--difficulty *initiating and maintaining* movement
--loss of manual *dexterity* with fine motor tasks
--*increase in time* needed to complete ADLs
--ex micrographia, hypophonia, hypomimia, masked facies, decreased arm swing
Rigidity:
--increased *resistance* to passive movement of muscle across a joint (lead pipe)

--together with tremor >> “*cogwheeling*”

--can be augmented with distracting maneuvers (ex. have patient perform task with other limb)
CLINICAL FEATURES OF PD:

Postural Instability/gait disturbance:
--less prominent early in disease (dragging leg, stooped posture)
--later on festination, freezing gait, loss of postural reflexes
>>leads to **falls**
MEDICAL MANAGEMENT of PD

--dopaminergic agents remain the principal therapy

1. **LEVODOPA**: (mainstay)
   --combined with carbidopa
   --AE: nausea, vomiting,
   Drowsiness, dizziness,
   Hypotension, hallucinations, dyskinesias, wearing off

STARTING DOSE:
Sinemet 25/100mg PO BID-TID
MEDICAL MANAGEMENT of PD

2.) **COMT inhibitors**: ex entacapone (comtan), tolcapone (tasmar)
--- use with levodopa
--- extends half life of levodopa (1-2.5 hrs)
>> reduces *OFF time*
--- AE: nausea, vomiting, diarrhea, psychosis

**STARTING DOSE:**
Entacapone: 200mg with BID (with *each dose* of sinemet)
Tolcapone: 100mg TID
3.) **Dopamine Agonists**: ex ropinirole (requip), pramipexole (mirapex), neupro
--can be used as monotherapy
--AE: lethargy, compulsive behavior (gambling, punding, impulse control, peripheral edema)
MEDICAL MANAGEMENT of PD

4.) **MOA-B inhibitors**: ex rasagiline (Azilect)
--increase half life dopamine
>>less wearing off
--AE: dopamine overdose
NON MOTOR SYMPTOM MANAGEMENT

1. **DEPRESSION**:  
   --SSRIs and SNRIs

2. **DEMENTIA**:  
   --Rivastagmine (Exelon)  
   --Memantine (Namenda)

3. **HALLUCINATIONS**:  
   --Quetiapine (seroquel)  
   --avoid typical anti-psychotics (haldol)

4. **REM sleep disorder (Periodic Limb Movements of sleep)**  
   --clonazepam QHS

**>>Insomnia:**  
 --melatonin  
--DBS
5.) RESTLESS LEG:
--sinemet, dopamine agonists

6.) URINARY INCONTINENCE:
--apomorphine?, anti-cholinergics?

7.) ORTHOSTATIC HYPOTENSION:
--fludrocortisone, indomethacin, domperidone?

8.) FATIGUE:
--methylphenidate

9.) CONSTIPATION:
--polyethylene glycol

10.) ERECTILE DYSFUNCTION
--sildenafil
PRACTICE PARAMETERS?

• Compliance with these practice parameters may become critical for healthcare delivery reimbursement.

• As these parameters are a surrogate for HRQOL and quality of medical care, refined documentation may also become a manifestation of improved care of PD patients.
CLINICAL SITUATIONS?

The following are examples of clinical diagnoses that worsen PD symptoms with inpatients

1.) INFECTIONS
   >>UTIs, PNA, COPD/CHF exacerbations, sepsis from any cause
2.) STROKE
3.) Abrupt discontinuation of PD meds
4.) Pain from any source
5.) Delirium (sundowning), anxiety, stress
6.) Iatrogenic
REFERENCES


THANK YOU FOR YOUR TIME!