Non-Motor Symptoms in Parkinson's Disease

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Lecturer: a person who talks during someone else's sleep

What are the characteristic motor features of Parkinson's Disease?

- Slowness of movement (bradykinesia)
- Tremor when the limb is at rest
- Muscle rigidity
- Imbalance

Non-Motor Symptoms in Parkinson's Disease

- They are common
- Frequently mis- or underdiagnosed
- Significant source of distress and they diminish quality of life
- May fluctuate with motor symptoms
- Often very treatable
- May be due to PD and/or its treatment
- Always consider non-PD causes

Non-Motor Features of PD

- Autonomic
- Sensory
- Neuropsychiatric
- Sleep-Related
- Other

Non-Motor Features of PD

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- **Other**

Autonomic

- Constipation
- Urinary bladder instability
- Orthostatic hypotension
- Sweating
- Drooling
- Other

Constipation

- **Eliminate anticholinergic medications (Artane, Elavil, etc.)**
- ***Increase water intake and exercise***
- **Increase dietary bulk/fiber**

  Old age: when you prefer oat bran to sowing your wild oats

Dietary Fiber

- **Fruits:** Apples (with skin), pears, prunes, berries, and oranges.
- **Vegetables:** Broccoli, carrots, sweet potatoes, leafy greens, green peas, and artichokes.
- **Legumes:** Lentils, black beans, kidney beans, and chickpeas.
- **Whole grains:** Whole-wheat bread, whole-grain cereals (oatmeal, bran flakes), brown rice, and whole-wheat pasta.
- **Nuts and seeds:** Almonds, peanuts, pecans, chia seeds, and flaxseed.

A Natural Recipe for Constipation

- Miller's (unprocessed wheat) Bran* 1 cup
- Applesauce ½ cup
- Prune Juice ½ cup
- Mix these ingredients together and refrigerate. Replace the mixture each week. Take 1 – 2 Tablespoons daily for one week for desired results. If needed, you may increase dose by 1 Tablespoon each week. Stool frequency and gas may increase the first few weeks but will usually adjust after one month.
- *Miller's Bran is unprocessed wheat bran. This may be purchased at most large grocery stores and is found with either the hot cereals or flours and baking goods. The most commonly found brand name is Hodgson Mill and it comes in a brown 14 oz. box. Miller's Bran may also be purchased in bulk at health food stores.
- You can also sprinkle bran on food to supplement your fiber intake.

Constipation

- Use of stool softener (Colace®)
- Judicious use of laxatives, enemas and osmotic agents (polyethylene glycol [MiraLax] lactulose)
- Amitiza or Linzess (⇧fluid into intestine and speed up bowel movement)
- Consultation with a gastroenterologist

Urinary Bladder

- Lower urinary tract symptoms
  - Impaired storage of urine
  - Frequency, urgency, incontinence, nocturia
- Rule out a primary urological problem (enlarged prostate, etc.)
- Review medications: diuretics
- Simple things first
  - Regular trips to the bathroom
  - Minimize caffeine and fluid (especially at night)
  - Protective pad/diaper/condom or wick catheter
  - Bedside commode at night

Urinary Bladder

- Medications to reduce bladder contractions…
  - Careful about Ditropan and Detrol
- Catheter (rarely necessary)
  - Intermittent
  - Chronic (a last resort)
- Botulinum toxin injection

Orthostatic Hypotension

- **Drop in blood pressure when arising**
  - **> 20mm systolic or 10mm diastolic**
- **Symptoms:**
  - **Lightheadedness, faintness, actual faint**
  - **Fatigue, trouble concentrating, shoulder aching, blurred vision**
- **Non-medication treatment:**
  - **Review of medications (may not need BP meds)**
  - **Liberalize salt (2-3 grams/day) and water (2-3 liters/day)**
  - **Avoid sitting or standing quickly**
  - **Avoid large meals**
  - **Avoid hot baths or showers**

Orthostatic Hypotension

Simple Treatment, cont.

- Avoid straining at stool
- Caffeine
- If symptomatic: sit or lay down, cross legs and contract muscles if standing
- Avoid prolonged sitting or laying down
- Support hose
- Lumbar corset
- Prop head of bed up 20°
- Gentle exercise
- Recumbent bicycle or pedals

Orthostatic Hypotension

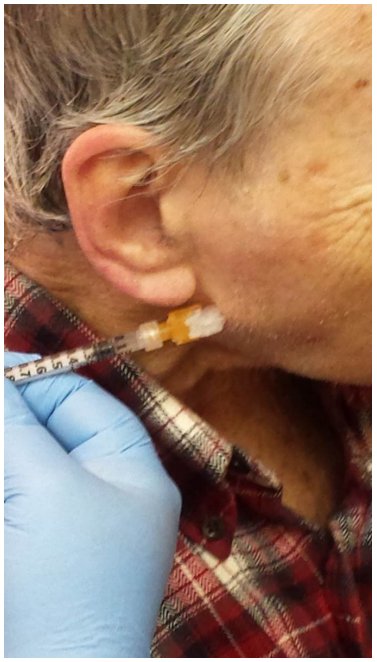
- **Medications**
  - **Fludrocortisone (Florinef)**
  - **Proamatine (Midodrine)**
  - **Droxidopa (Northera)**
  - **Pyridostigmine (Mestinon)**
  - **Atomoxetine (Strattera)**
  - **Others**

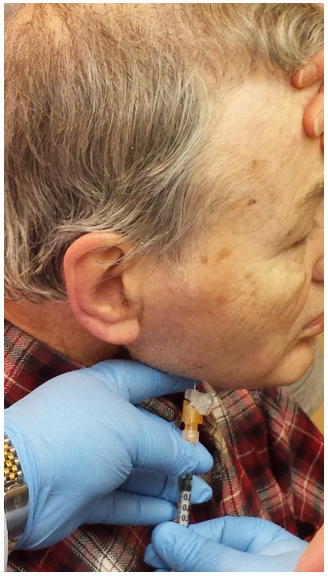
Sweating/Thermoregulation

- Drenching sweats (often at night)
- Often feel warm, even in cool environment, or opposite
- May correlate with motor fluctuations and dosing of levodopa
- Treatment:
  - Smooth out fluctuations
  - Propranolol
  - Anticholinergics

Drooling

- Inefficient spontaneous swallowing of saliva
- Cautious use of an anticholinergic
- Sublingual atropine drops
- Injection of botulinum toxin into salivary glands



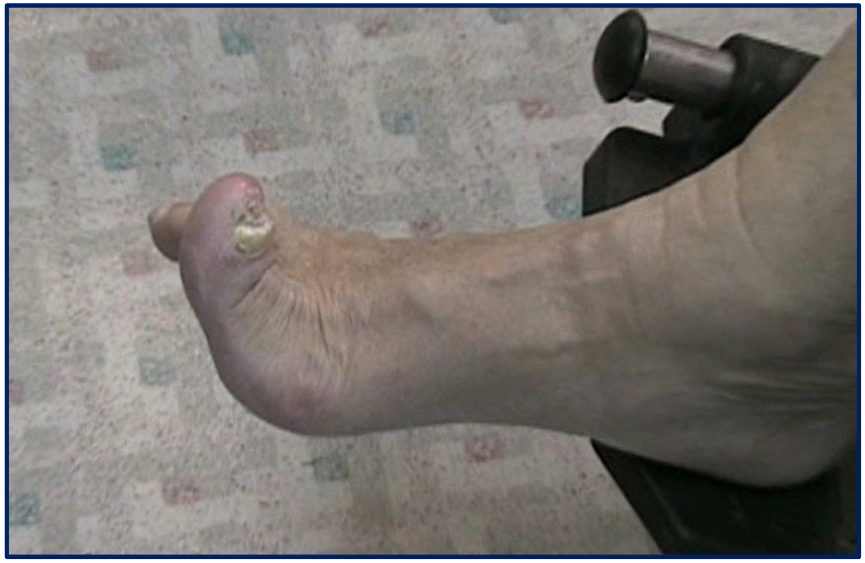


Non-Motor Features of PD

- **Autonomic**
- ***Sensory***
- **Neuropsychiatric**
- **Sleep-Related**
- **Other**

Sensory Symptoms

- Pain
  - Large muscles, neck, back, trunk, shoulder (frozen shoulder)
  - Cramping
    - Nocturnal
    - Morning dystonia
  - Often fluctuates with motor fluctuations
  - Consider non-PD causes



Pain in Parkinson's Disease

- **Treatment**
  - **Improve motor fluctuations if they correlate with pain**
  - **Levodopa at bedtime for cramps**
  - **Levodopa upon awakening for AM dystonia**
  - **Medications**
    - **Muscle relaxants (baclofen, clonazepam)**
    - **Anticonvulsants (gabapentin, carbamazepine)**
    - **Antidepressants (nortriptyline)**
    - **Botulinum toxin**
    - **Deep brain stimulation**
  - **Other, e.g., injection for frozen shoulder**

Sensory Symptoms

- Internal tremor or restlessness (akathisia)
- Decreased smell (and taste)

Double Vision (Diplopia)

- Seeing 2
- Goes away when looking with only 1 eye
- Usually side-by-side
- Usually worse with near vision (reading)
- Due to inability to get eyes to work together in sync

Double Vision (Diplopia)

- **Treatment**
  - See your ophthalmologist to rule out something other than PD
  - A prism may help
  - Keeping one eye closed when reading
  - Putting masking tape over one of the lenses in a pair of reading glasses
  - Clip-on occluder

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Psychiatric Aspects of PD

- Depression, anxiety (panic attacks)
- Most overlooked problems in PD (including by health care providers)
  - Related to PD itself
  - Not a character flaw or weakness
  - Treatable (medication and/or therapy)
- Impulse control disorder
  - Compulsive gambling, sexuality, pornography, shopping, eating, hobbies
  - Typically done surreptitiously
  - Usually medication related (dopamine agonists: Mirapex, Requip, Neupro)

Psychiatric Aspects of PD

- **Executive dysfunction/mild cognitive impairment (MCI)**
  - **Mild memory loss, trouble coming up with words and names, difficulty organizing and prioritizing, difficulty completing projects, trouble multi-tasking, impaired judgement**
  - **Still able to manage daily responsibilities but with more difficulty**
- **Apathy**
  - **Often seen in the setting of depression, MCI, or dementia (bothers everyone but the PWP)**

Psychiatric Aspects of PD

- **Dementia**
  - **Progressive cognitive impairment that *interferes with fulfilling daily responsibilities***
  - **Increases in frequency with advancing PD**
  - **Not an inevitable consequence of PD**
  - **Management**
    - **Critical review of medications and other treatable causes**
    - **Education**
    - **Oversight**
    - **Medications (Aricept, Exelon, etc)**
    - **Caregiver**

Psychiatric Aspects of PD

- Hallucinations & delusions
  - Illusion: misinterpretation of something real
  - Typically seen in more advanced PD, often when there is MCI or dementia
  - Seeing people or animals
  - Delusions: false belief
    - Paranoia
    - Delusional jealousy
    - Misidentification of spouse and others

Management of Hallucinations and Delusions

- Education and Reassurance
- Disease and medication "playing a trick on your mind"
- Critical review of medications
- If not causing a problem, no treatment is necessary
- If problematic, use of an antipsychotic (Seroquel or Clozaril)
- May improve with medication for Alzheimer's (Aricept or Exelon)
- Caregiver

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Sleep Disorders in PD

- Difficulty initiating sleep
- Difficulty maintaining sleep
- Early morning awakening
- Daytime sleepiness

Sleep Disorders in PD

- Vivid dreams/nightmares
- REM sleep behavioral disorder
  - Act out on dreams
  - May attack bed partner
  - May jump out of bed with injury
  - Move things from around the bed which may be injurious
  - Treatment with melatonin or clonazepam
- Restless legs syndrome and periodic leg movements of sleep
- Leg cramps

Sleep in PD
Important Treatment Considerations

- **Medications**
  - **Dopamine agonists and most PD drugs can cause daytime sleepiness**
  - **PD drugs can cause vivid dreams**
- **Treat nighttime symptoms of PD**
  - **Trouble turning in bed**
  - **Leg cramps**

Sleep in PD
Important Treatment Considerations

- **Recognize and treat restless legs syndrome**
  - **Discomfiting feeling in legs when at rest with an urge to move**
  - **Periodic limb movements of sleep**

Sleep in PD
Important Treatment Considerations

- Try to treat nocturia
- Diagnose and treat depression & anxiety
- Improve sleep hygiene
  - Minimize daytime and especially evening naps
  - Avoid evening caffeine
  - Regular time to go to sleep
  - Exercise (not in evening)
  - Avoid eating too close to bedtime

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Fatigue in PD

- Overwhelming feeling of low energy, exhaustion, tiredness
- Common in PD (about ½ experience)
- Poorly understood and understudied
- Associations: depression, apathy, sleep disorders, deconditioning, drugs, cognitive status, medications
- Yet, appears to also be directly related to PD
- Strong negative influence on quality of life

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