The PD You Don’t See: Cognitive and Non-motor Symptoms

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Goals

1) What are the most common non-motor symptoms?
2) Why are they important for me to know about?
3) Why do they happen?
4) What can I do about it?
Important things to Know

• People around you may not recognize these symptoms.
• These symptoms are part of PD.
• These symptoms affect quality of life.
• These symptoms have treatments.
• Nobody gets every symptom but...
Motor Symptoms

• Tremor
• Slowness (bradykinesia)
• Stiffness (rigidity)
• Imbalance (postural instability)
Common Nonmotor Symptoms

- Fatigue
- Memory Loss
- Pain
- Sleep Problems
- Constipation
- Depression
- Apathy
- Speech and Swallowing
- Anxiety
- Bladder Problems
- Sexual Dysfunction
- Lightheadedness
- Slow Thinking
- Vision Changes
- Bone and skin issues
Thinking and Memory (cognition)

I have a photographic memory.

It takes at least an hour to develop.

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1) What are the symptoms?

- Normal cognition or age-related change
- Mild cognitive impairment
  - Executive Function
  - Language
  - Memory
- Dementia
2) Why is this important?

- Dementia is the leading reason for nursing home placement in PD.
- Thinking and memory affect all aspects of function.
- May be treatable or reversible.
3) Why does this happen?
3) Why does this happen?

- PD does not just affect dopamine.
- PD does not just affect the basal ganglia.
- The basal ganglia is involved in executive function.
4) What can I do about it?
4) What can I do about it?

• Have your thinking and memory tested.
• Make sure there is not another cause.
• EXERCISE – physical, mental, social
• Be strategic.
• Medications.
Sleep and Energy
1) What are the symptoms?

- **Sleep Disorders**
  - Restless Legs Syndrome
  - REM Behavior Disorder
  - Sleep Apnea
- **Excessive Daytime Sleepiness**
- **Fatigue**
2) Why is this important?

- Sleep affects nearly everything!
- PD is a 24/7 disease.
- These symptoms may be treatable (and not just with a sleeping pill).
3) Why does this happen?

- PD does not just affect dopamine.
- PD does not just affect the basal ganglia.
- PD affects melatonin.
- REM behavior disorder may be the first pre-motor symptom of PD.
4) What can I do about it?

- Get a sleep study.
- Check your medications.
- EXERCISE and SLEEP HYGIENE.
- Specific Treatments.
1) What are the symptoms?

- Depression
- Anxiety
  - General Anxiety Disorder
  - Social Phobia
- Apathy
2) Why is this important?

• Mood affects nearly everything!
• You deserve help.
• These symptoms may be treatable.
3) Why does this happen?

- PD does not just affect dopamine.
- PD does not just affect the basal ganglia.
- PD affects serotonin.
- Dopamine and the basal ganglia affect mood.
4) What can I do about it?

• Talk to your doctor, a psychiatrist and/or a therapist.
• Talk to your friends and family.
• EXERCISE and Therapy.
• Expectations and schedules.
• Specific Treatments.
Autonomic Nervous System

Parasympathetic
- Stimulates flow of saliva
- Slows heartbeat
- Constricts bronchi
- Stimulates peristalsis and secretion
- Stimulates release of bile

Sympathetic
- Dilates pupils
- Inhibits flow of saliva
- Accelerates heartbeat
- Dilates bronchi
- Converts glycogen to glucose
- Secretion of adrenaline and noradrenaline
- Inhibits bladder contraction

Vagus nerve

Ganglion

Medulla oblongata

Chain of sympathetic ganglia

Solar plexus
1) What are the symptoms?

- Constipation
- Urinary Urgency
- Low blood pressure
- Sexual dysfunction
- Sweating
- Mucuous and drooling
2) Why is this important?

- Symptoms range from annoying to life threatening.
- Can affect quality of life in many ways from discomfort to intimacy with life partner.
- These symptoms may be treatable.
3) Why does this happen?

- PD has affects outside of the brain
- Some newer data suggests that PD may start in the nerves of the gut
4) What can I do about it?

- Track your blood pressure
- Get on a bowel regimen including fluids, fibers and exercise
- Medications exist to help with drooling, mucous, and bladder
- Sexual dysfunction can occur for many reasons and many are treatable
Visual Symptoms
1) What are the symptoms?

- Problems reading
- Problems with night vision/driving
- Visual Illusions
- Visual Hallucinations
2) Why is this important?

- Visual problems can affect your safety.
- These symptoms may be side effects of your medications.
- These symptoms may be treatable.
3) Why does this happen?

- PD can affect the muscles controlling eye movements.
- PD can affect the retina.
- PD, dopamine and medications affect the visual centers in the brain.
4) What can I do about it?

- See an ophthalmologist or neuro-ophthalmologist.
- Convergence insufficiency may respond to prisms.
- Medication adjustments may help bothersome hallucinations.
Other Important Stuff

“What fits your busy schedule better, exercising one hour a day or being dead 24 hours a day?”
1) What are the symptoms?

- Pain
- Impulse Control Disorders
- Osteoporosis
- Melanoma
2) Why is this important?

- Pain affects nearly everything.
- You may be able to prevent bone fractures and skin cancer.
- Your medications can cost you your house and marriage.
3) Why does this happen?

- PD affects pain processing.
- PD affects bone health and the skin.
- Dopamine medications can affect one’s motivational centers in the brain.
4) What can I do about it?

- Get your bones checked.
- Take vitamin D and calcium.
- Get your skin checked.
- Exercise.
- Talk to your doctor.