

Treatment Options for Non-motor Symptoms in Parkinson's Disease

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Goals

- 1) What are the most common non-motor symptoms?
- 2) Why do they happen?
- 3) Why are they important for me to know about?
- 4) What treatment options are available?
- 5) How else can I manage or cope with these symptoms?

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.
- If you don't have a symptom now it doesn't mean you will later.
- One can adapt strategies to better live with certain symptoms.

Motor Symptoms

- Tremor
- Slowness (bradykinesia)
- Stiffness (rigidity)
- Imbalance (postural instability)

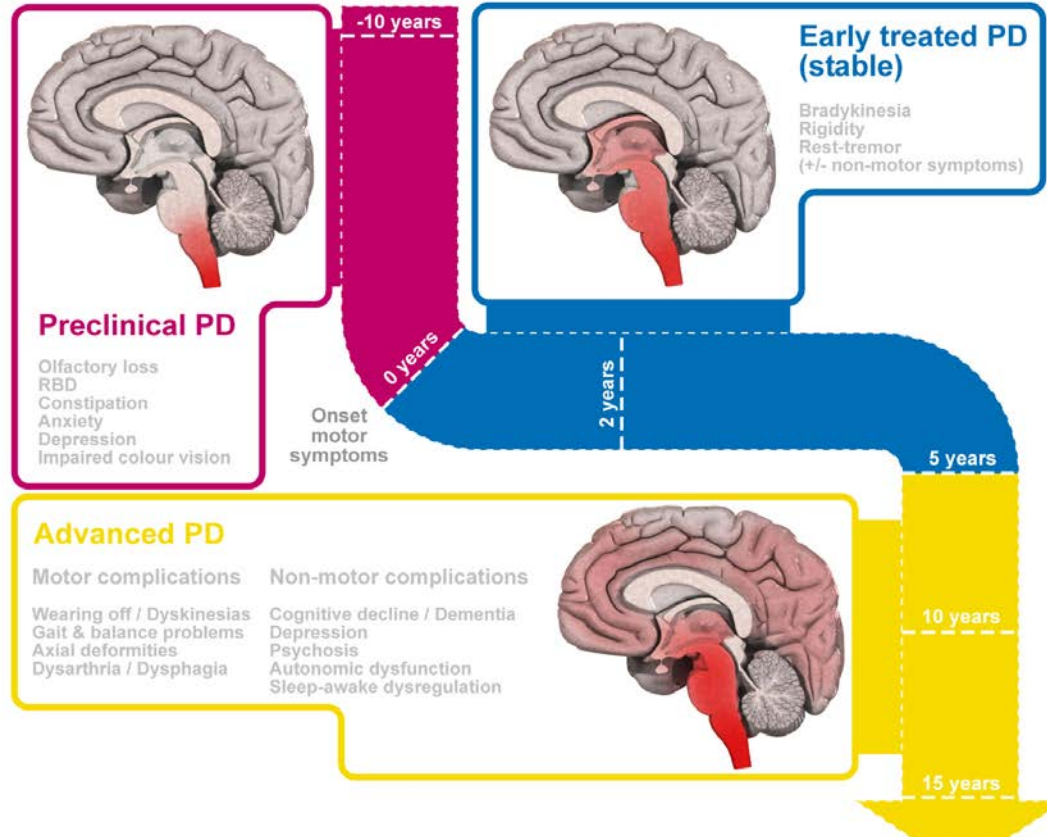
Common Nonmotor Symptoms

- 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

Why do nonmotor symptoms happen?

The evolution of PD

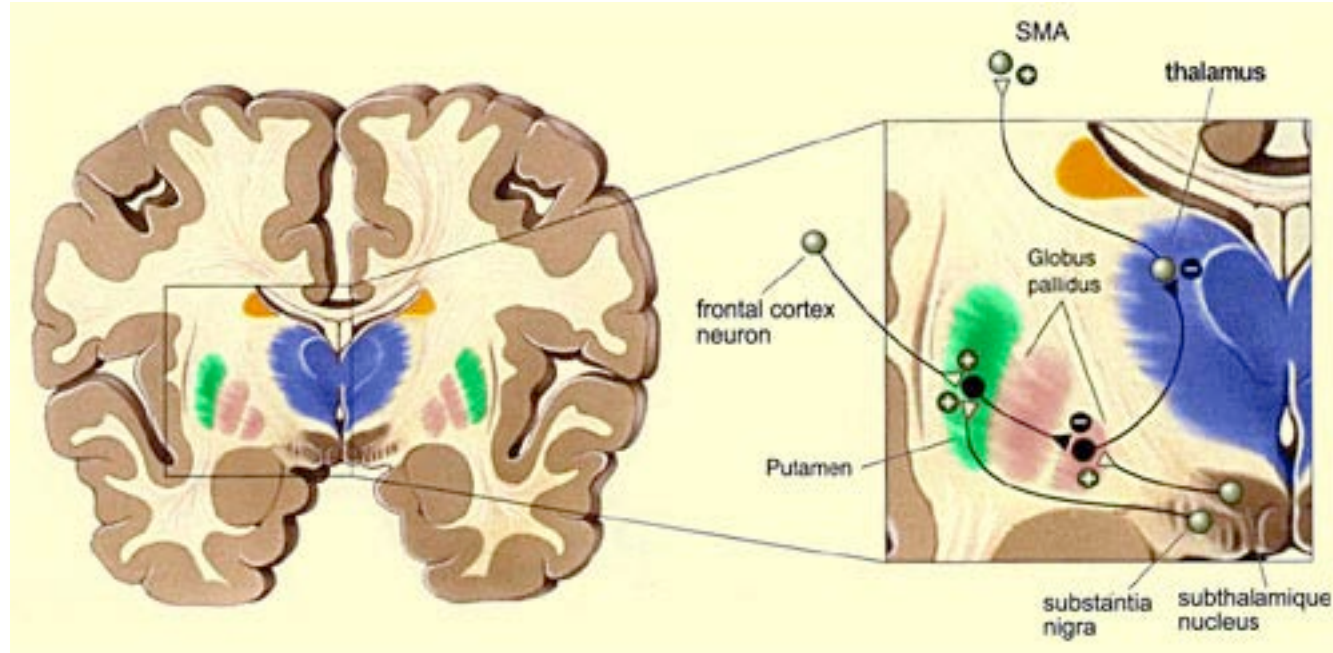
This figure shows how PD progresses from the earliest symptoms (often non-motor symptoms) to diagnosis and start of treatment through to the early and advanced stages of the condition.



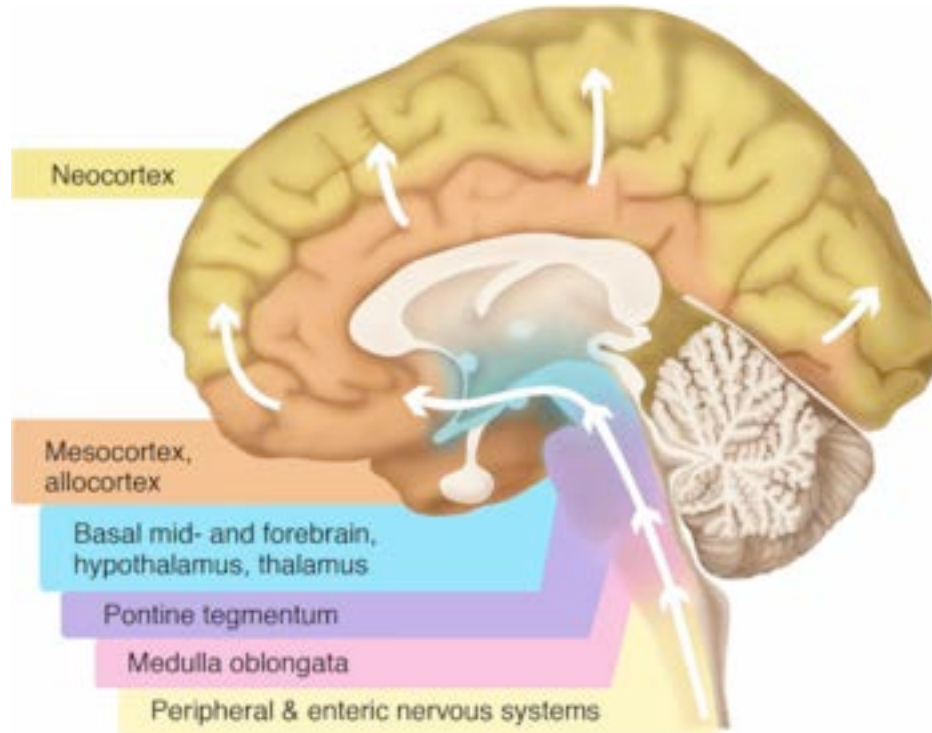
Parkinson's is more than Dopamine

- PD affects almost all neurotransmitters
- Acetylcholine is important for memory
- Serotonin is important for mood
- Norepinephrine is important for energy
- Melatonin is important for sleep

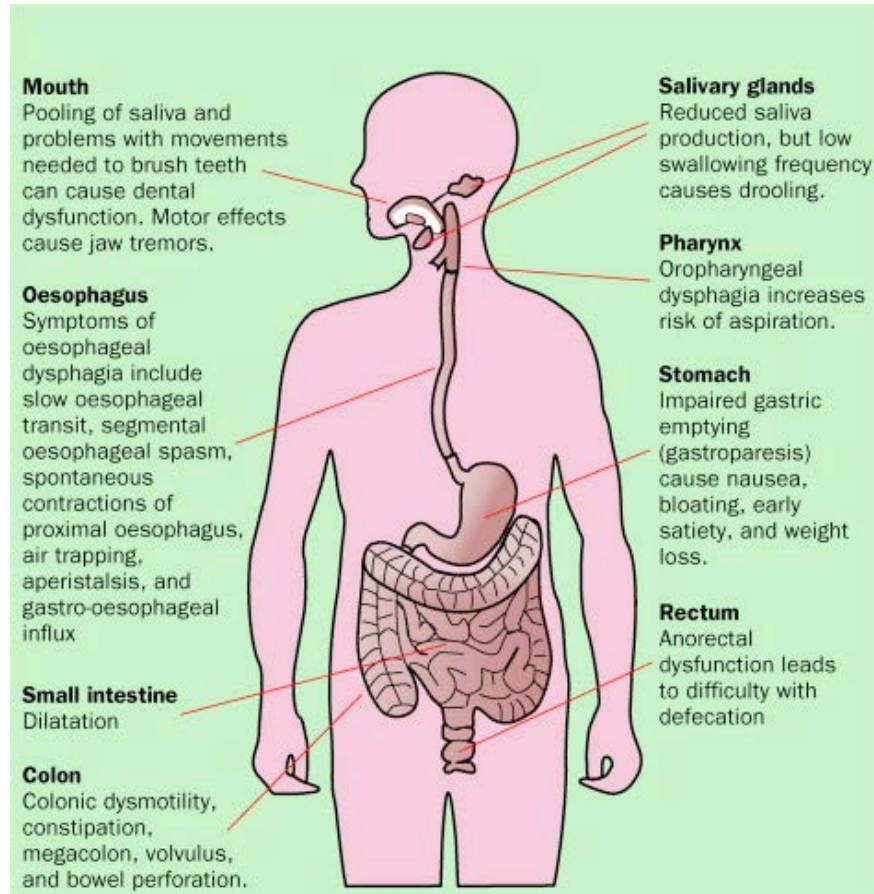
Basal Ganglia is more than Movement



PD Affects Multiple Brain Areas



PD has effects outside of the brain



PD Outside of the Brain

- Skin
- Eyes and eye muscles
- Gut
- Bones
- Peripheral nerves
- Autonomic nervous system
- Joints

PD Affects Multiple Areas of Your Life

- Changes in movement and function
- Changes in sleep and mood
- Changes in roles and relationships
- Changes in identity and self



Thinking and Memory (cognition)



What are the symptoms?

- Normal cognition or age-related change
- Mild cognitive impairment
 - Executive Function
 - Language
 - Memory
- Dementia

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.

Reversible Causes of Dementia

- Medications (e.g. sleep medications, bladder medications)
- Chronic sleep deprivation
- Depression
- Other medical conditions (e.g. low vitamin B12)

Get your memory tested



MOntreal Cognitive Assessment
(The MOCA)

Brain Exercise



Therapies

- Acetylcholinesterase Inhibitors (rivastigmine, donepezil)
- Memantine
- Physical Exercise
- Cognitive Rehabilitation and Exercise
- Social Activities and Laughter

Coping and Management Strategies

- Focus on the positive
- Use external aids
- Stay active and engaged
- Find ways to stay connected to who you are and who you love

Sleep and Energy



What are the symptoms?

- Insomnia
 - Initiation (Going to sleep)
 - Maintenance (Staying asleep)
 - Early wakening
- Excessive Daytime Sleepiness
- Fatigue

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).

Common Sleep Problems in PD

- Nocturia (getting up to pee)
- Anxiety and Depression
- Pain
- Untreated PD
- Nightmares
- Dyskinesias

Specific Sleep Disorders

- Restless Legs Syndrome
- Periodic Leg Movements of Sleep
- REM Behavior Disorder
- Sleep Apnea

Initial Steps

- Get a sleep study.
- Check your medications.
 - Insomnia (amantadine, MAO-I)
 - Daytime sleepiness (dopamine agonists, sinemet)
- Check for other causes of fatigue (e.g. anemia, low thyroid, testosterone deficiency, dehydration)
- EXERCISE and SLEEP HYGIENE.

Specific Treatments

- REM Behavior Disorder: Melatonin, clonazepam
- Sleep Apnea: CPAP, oxygen
- RLS: Dopaminergic medications, gabapentin, clonazepam, narcotics
- Nocturnal Leg Cramps: magnesium, quinine, muscle relaxants
- Fatigue: Exercise, Stimulants (methylphenidate)
- Daytime somnolence: modafenil

Coping and Managing

- Self-hypnosis
- Energy management
- The Power Nap
- Shifting schedules

Mood



What are the symptoms?

- Depression
- Anxiety
 - General Anxiety Disorder
 - Social Phobia
 - Panic Attacks
- Apathy

Other Difficult Emotions

- Grief
- Guilt
- Demoralization/hopelessness
- Frustration/Anger
- Isolation/Loneliness

Why is this important?

- Mood affects nearly everything!
- You deserve help.
- These symptoms may be treatable.

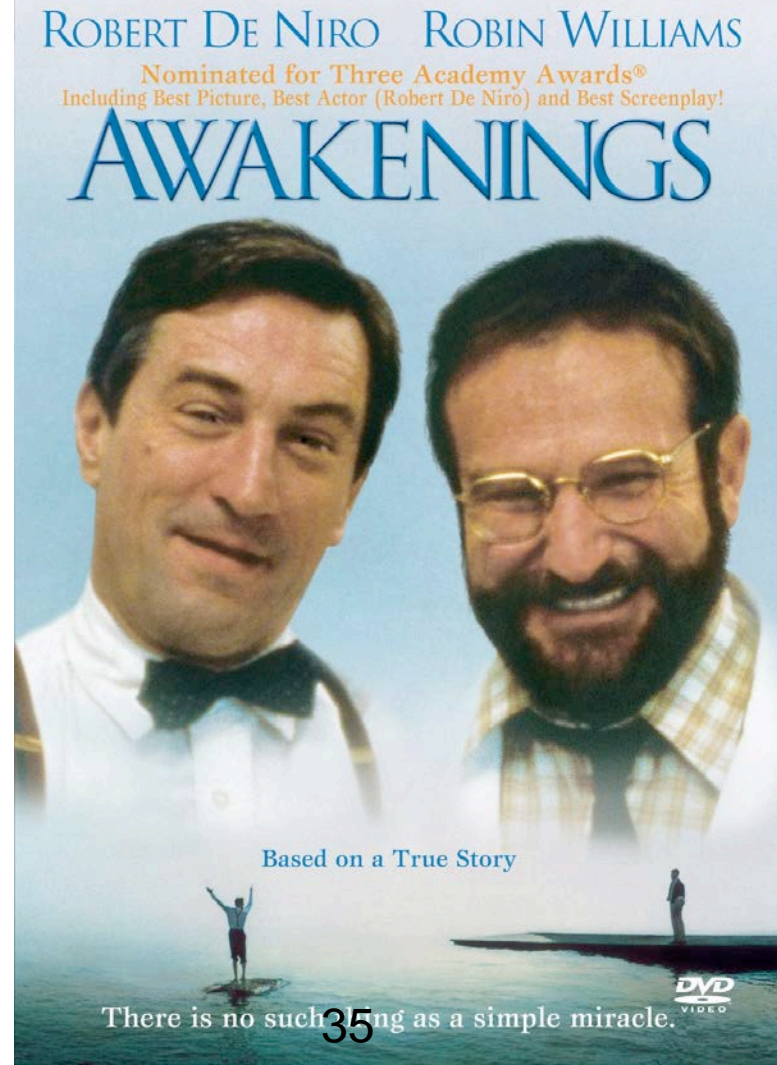
Depression Treatments

- Medications
 - Selective Serotonin Reuptake Inhibitors (SSRIs)
 - Selective Serotonin Norepinephrine Reuptake Inhibitors (SNRIs)
 - Other (Tricyclic, mirtazepine, bupropion)
- Psychotherapy (Counseling)
 - Cognitive behavioral therapy (CBT)
- Exercise
- Mindfulness

Anxiety Treatments

- Medications
 - Wearing off of levodopa?
 - Selective Serotonin Reuptake Inhibitors (SSRIs)
 - Selective Serotonin Norepinephrine Reuptake Inhibitors (SNRIs)
 - Other (benzodiazepines, buspirone)
- Psychotherapy (Counseling)
 - Cognitive behavioral therapy (CBT)
- Exercise
- Mindfulness

Apathy: Changing Expectations and using Routines



Prozac is not always the answer.

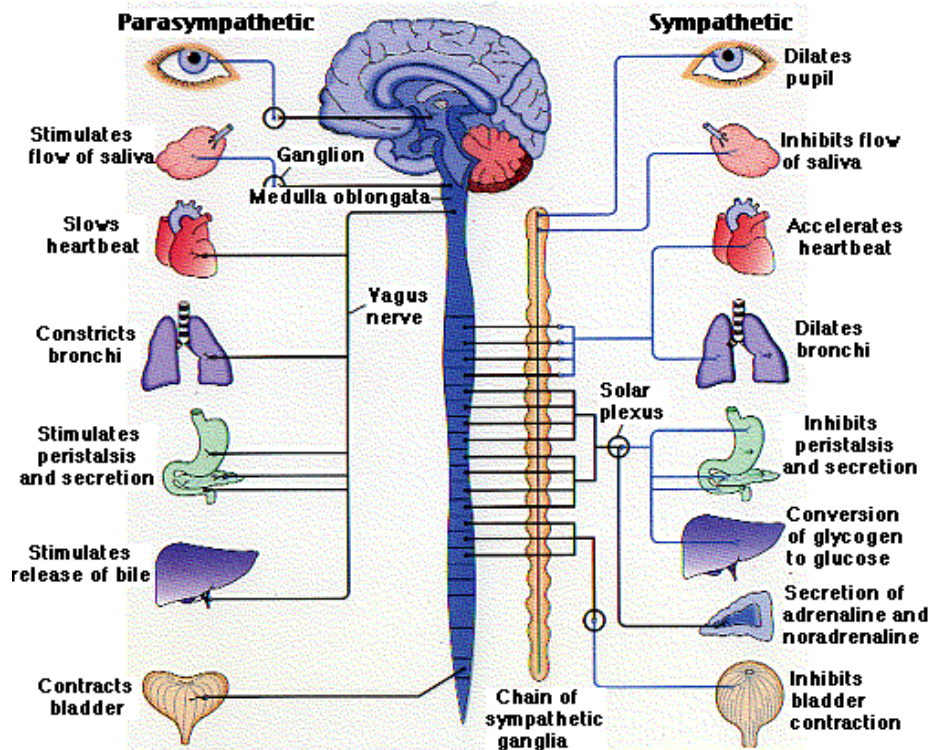


"Could we up the dosage? I still have feelings."

Working with Difficult Emotions

- Naming, Understanding, Respecting, Supporting, Exploring (NURSE)
- Connecting and sharing
- Finding sources of strength and meaning
- Spirituality
- Making room for joy and love

Autonomic Nervous System



What are the symptoms?

- Constipation
- Urinary Urgency
- Low blood pressure
- Sexual dysfunction
- Sweating
- Mucuous and drooling

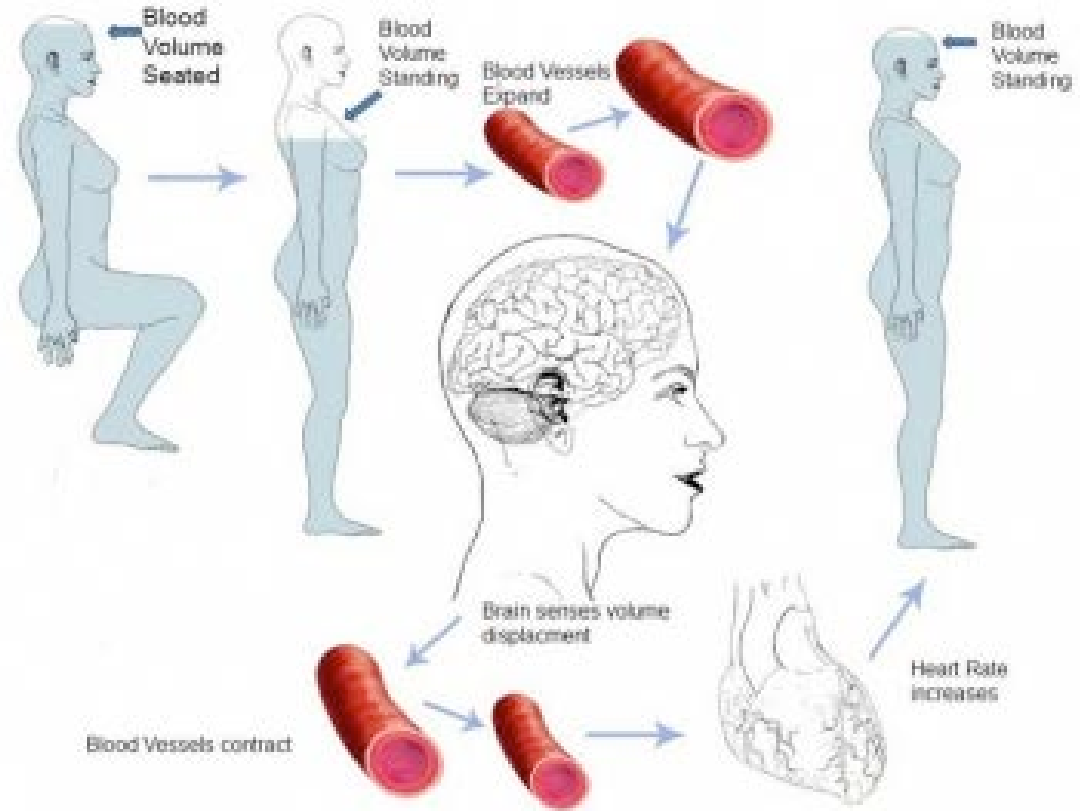
Why is this important?

- 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.

Orthostatic Blood Pressure

Figure 1: Normal Responses to Standing

(Drawing by Helen Grubb)



Treatments

- Constipation: Fluid, fiber, exercise, propylene glycol, stool softeners, probiotic, senna
- Bladder urgency: Kegel exercise, trospium, mirabegron, desmopressin (nocturnal only, watch for low sodium)
- Drooling: sucking candy or gum, atropine drops, botulinum toxin injections, glycopyrrolate
- Runny nose: guaifenesin, ipratropium nasal spray
- Blood Pressure: Fluids, salt, elevating head of the bed, support hose and binders, cold water, midodrine, fludrocortisone, droxidopa
- Sexual Dysfunction: couples counseling, sexual counseling, erectile dysfunction medications

Visual Symptoms



What are the symptoms?

- Problems reading
- Problems with night vision/driving
- Visual Illusions
- Visual Hallucinations

Why is this important?

- Visual problems can affect your safety.
- These symptoms may be side effects of your medications.
- These symptoms may be treatable.

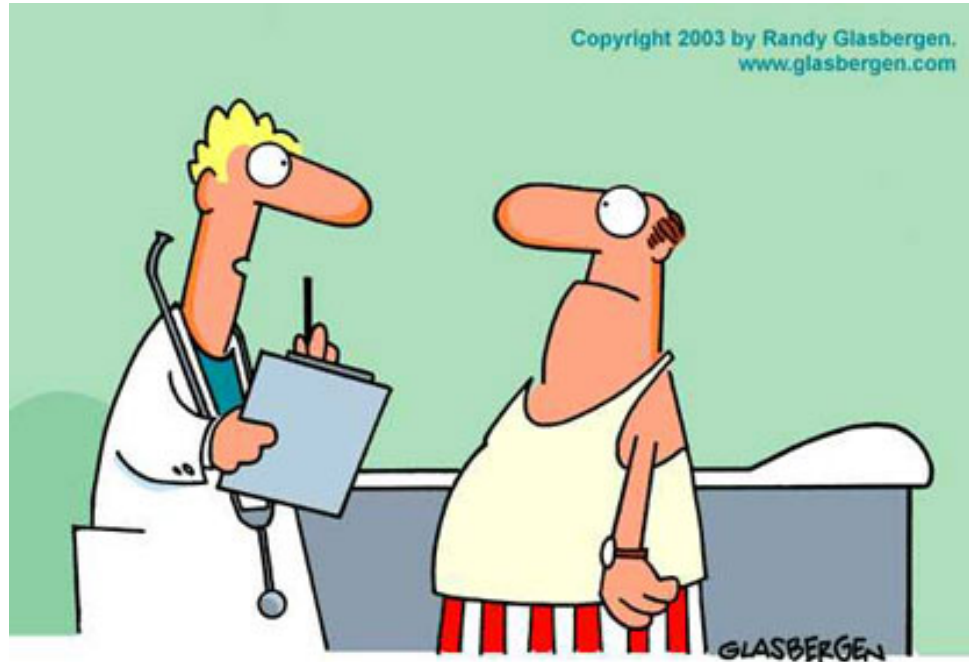
What can I do about it?

- See an ophthalmologist or neuro-ophthalmologist.
- Driving testing
- Convergence insufficiency may respond to prisms.

PD Psychosis

- Possible Causes: infection, change in environment, metabolic issues (e.g. low sodium)
- What is the impact (pleasant, neutral or scary)
- Reduce medications: dopamine agonists, anticholinergics, amantadine, levodopa
- Medications: quetiapine, pimavanserin, clozapine

Other Important Stuff



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

What are the symptoms?

- Pain
- Impulse Control Disorders
- Osteoporosis
- Melanoma

Why is this important?

- Pain affects nearly everything.
- You may be able to prevent bone fractures (bone density scan, vitamin D, Calcium) and skin cancer (annual skin check).
- Your medications can cost you your house and marriage.

Causes of Pain in PD

- Frozen Shoulder
- Orthopedic issues
- Muscle tension
- Dystonia
- Neuropathy

Pain Treatments

- Physical Therapy
- Massage
- Acupuncture
- Pain psychologist
- Medications: anti-inflammatories, acetaminophen, SNRIs, gabapentinoids, narcotics

Pain Management

- Focus on function
- Reasonable expectations
- Sleep and Mood
- Mindfulness Based Stress Reduction (MBSR)



Take Home Messages

- Get your memory tested
- Talk to your doctor about any nonmotor symptoms you are experiencing (e.g. mood, energy, sleep, pain, constipation...)
- If you are having issues with fatigue, balance or lightheadedness check your blood pressure

Take Home Messages II

- Get your skin and bones checked
- Medications can cause memory issues, sleep problems and hallucinations
- Get plenty of fluids and fiber
- Stay active physically, mentally and socially

Take Home Messages III

- Medications are available for cognitive, mood, sleep, energy, autonomic and pain symptoms
- Coping can be enhanced through mindfulness, social connections, activity, and counseling
- One can build resilience by focusing on meaning, joy, and love

