

# Not Just the Shakes: Non-motor Symptoms

Benzi Kluger, MD

University of Colorado  
Denver, CO

# 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 can I do about it?

# Important Things To Know

- People around you may not recognize these symptoms
- These symptoms
  - Are part of Parkinson's
  - Affect quality of life
  - Have treatments
- If you don't have a symptom now it doesn't mean you will later

# Motor Symptoms

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

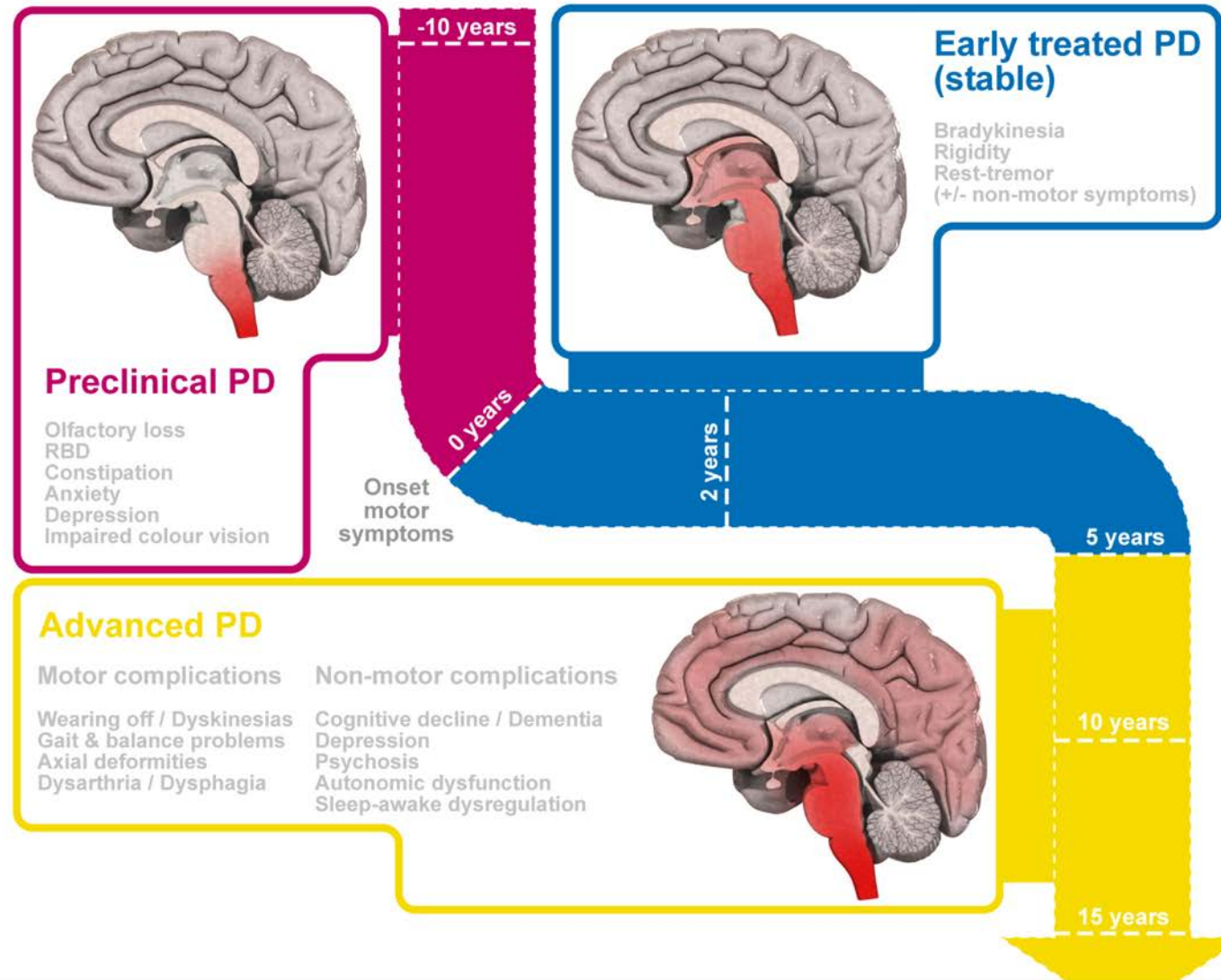
# Common Non-motor Symptoms

- 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 Does This 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.



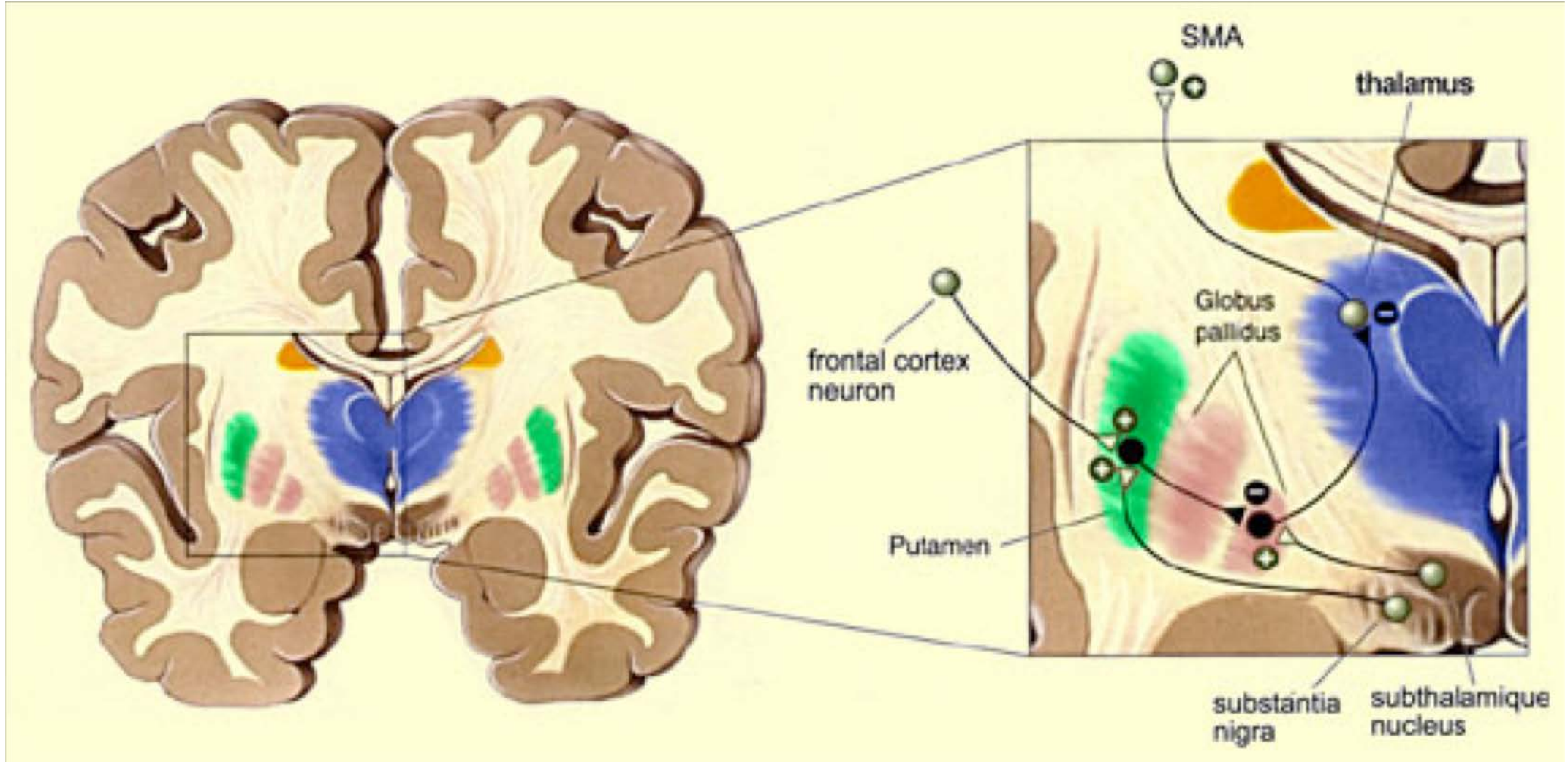
# Parkinson's Is More Than Dopamine

Parkinson's affects almost all neurotransmitters:

- Acetylcholine is important for memory
- Serotonin is important for mood
- Norepinephrine is important for energy
- Melatonin is important for sleep

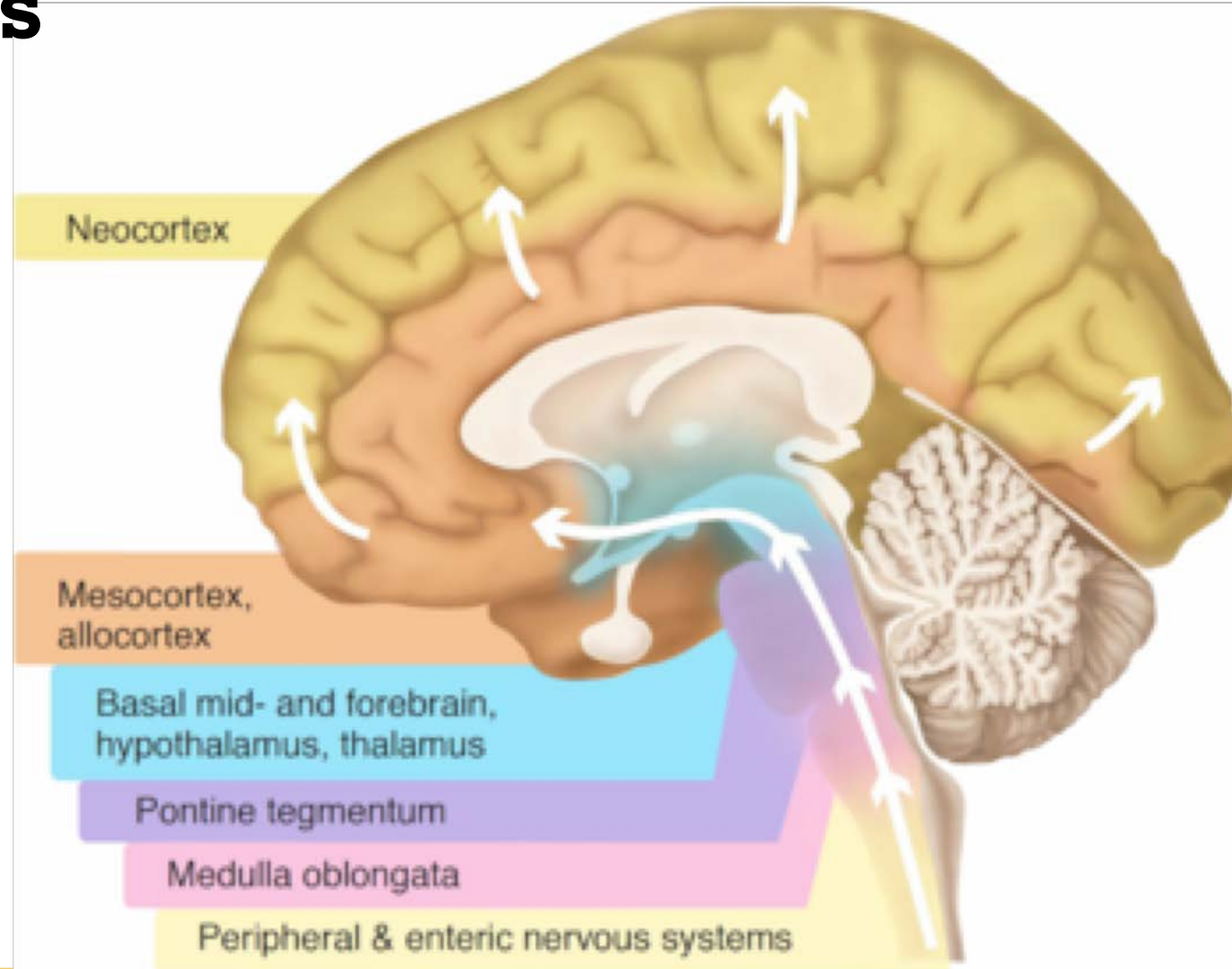


# Basal Ganglia Is More Than Movement

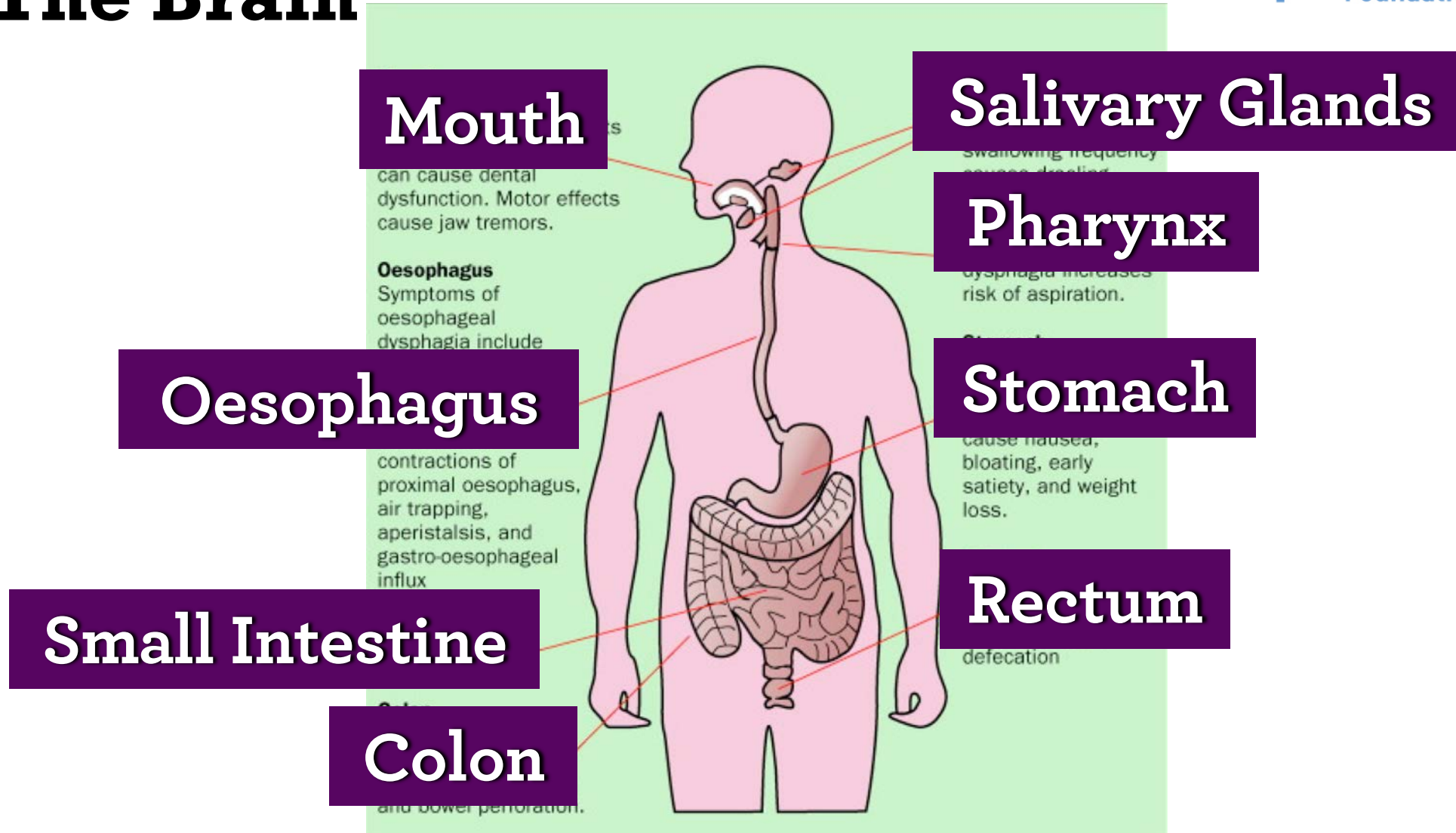




# Parkinson's Affects Multiple Brain Areas



# Parkinson's Has Effects Outside Of The Brain



# Parkinson's Outside Of The Brain

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

# Sleep and Energy



# Sleep - What Are the Symptoms?

- Insomnia
  - Initiation (going to sleep)
  - Maintenance (staying asleep)
  - Early wakening
- Excessive Daytime Sleepiness
- Fatigue

# Sleep - Why is This Important?

- Sleep affects nearly everything!
- Parkinson's is a 24/7 disease
- These symptoms may be treatable  
(and not just with a sleeping pill)

# **Sleep - Common Problems in Parkinson's**

- Nocturia  
(getting up to urinate)
- Anxiety and depression
- Pain
- Untreated Parkinson's
- Nightmares
- Dyskinesias



# Specific Sleep Disorders

- Restless Legs Syndrome (RLS)
- Periodic Leg Movements of Sleep (PLM)
- REM Behavior Disorder (RBD)
- Sleep Apnea

# **Sleep - What Can I Do About It?**

- Get a sleep study
- Check your medications
- **EXERCISE and SLEEP HYGIENE**
- Specific treatments

# Mood



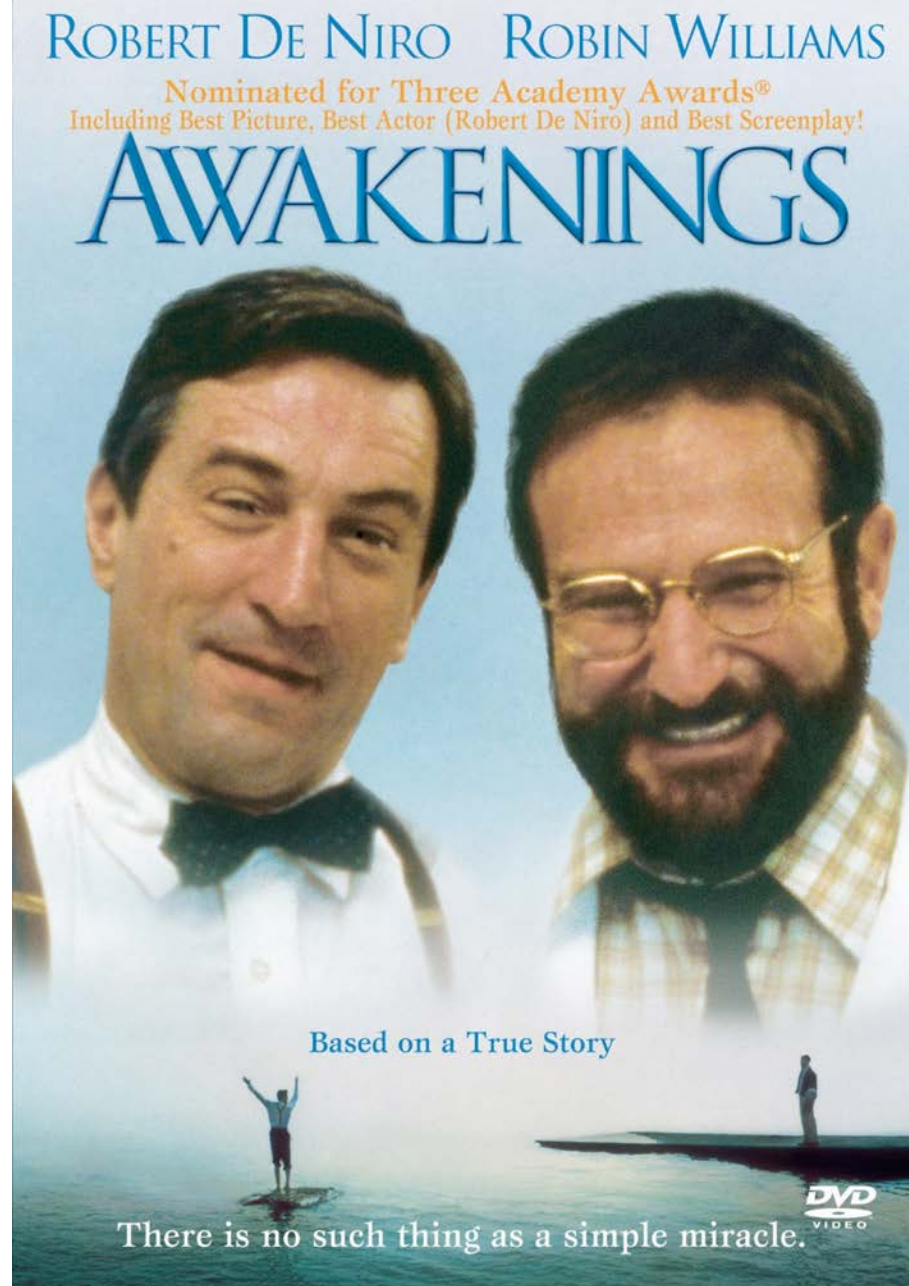
# Mood - What Are the Symptoms?

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

# **Mood - Why is This Important?**

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

# Apathy: Changing Expectations and Using Routines





# **Mood - What Can I Do About It?**

- Talk to your doctor, a psychiatrist and/or a therapist
- Talk to your friends and family
- **EXERCISE** and psychotherapy (counseling)
- Medications

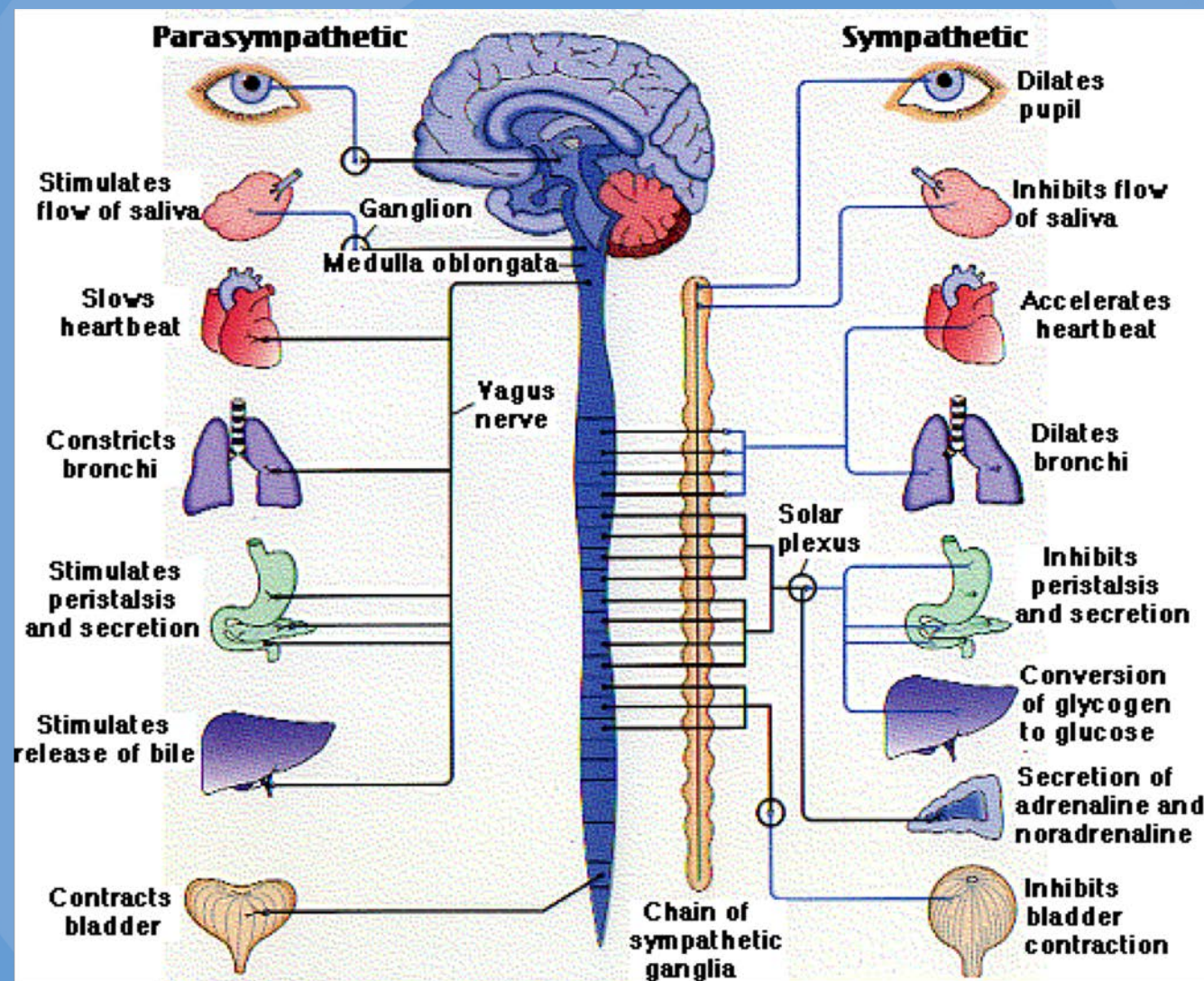


# Autonomic Nervous System (ANS)



**DAVIS PHINNEY**  
Foundation For Parkinson's

*every victory counts.*



# **ANS - What Are The Symptoms?**

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

# **ANS - 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 (OBP)

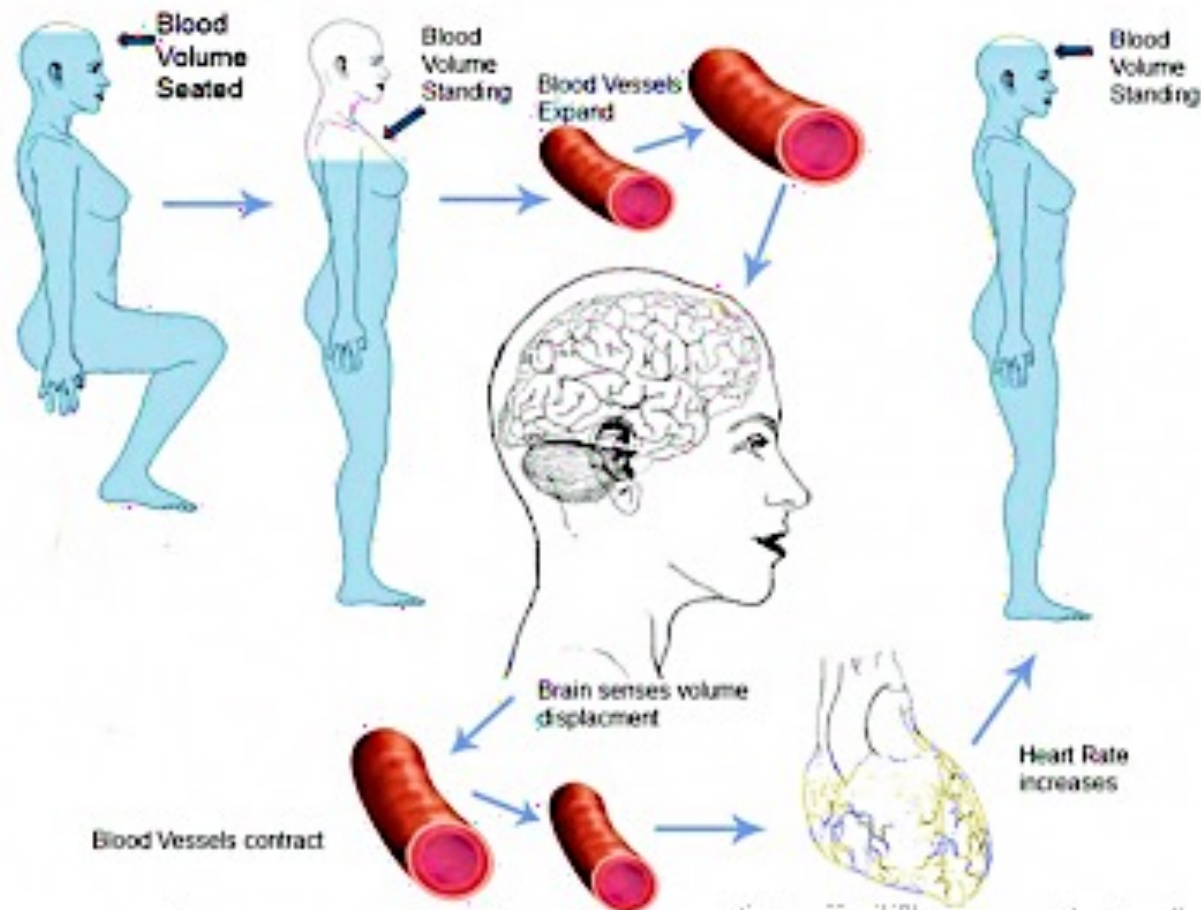


**DAVIS PHINNEY**  
Foundation For Parkinson's

*every victory counts.*

**Figure 1: Normal Responses to Standing**

(Drawing by Helen Grubb)



# **OBP - 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



# **Vision - What Are The Symptoms?**

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



# **Vision - Why Is This Important?**

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

# **Vision - What Can I Do About It?**

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

# Thinking And Memory (Cognition)

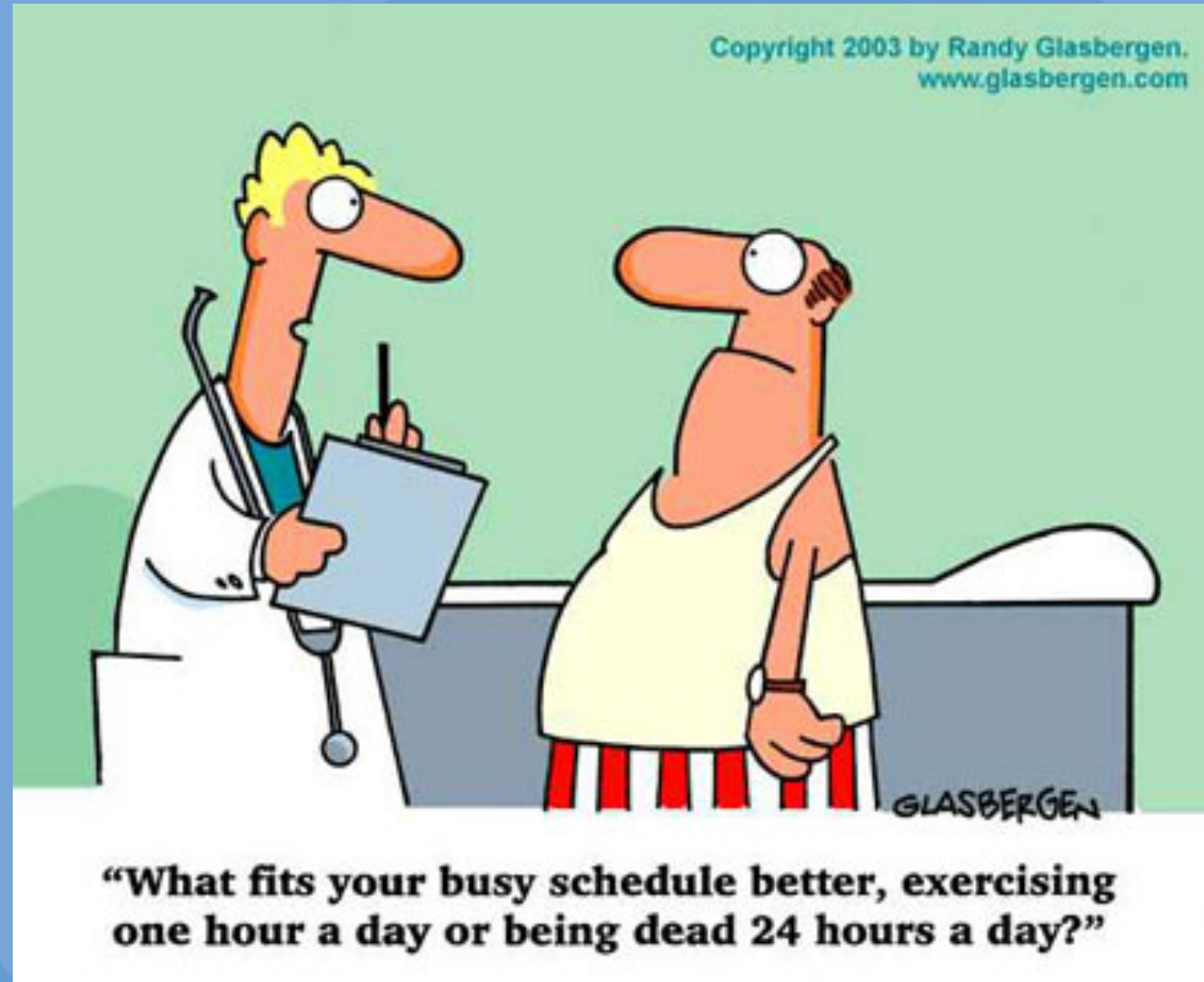


**DAVIS PHINNEY**  
Foundation For Parkinson's

*every victory counts®*



# Other Important Stuff



# 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 and skin cancer
- Your medications can cost you your house and marriage

# Causes of Pain In Parkinson's

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



# What Can I Do About It?

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

- Get your memory tested  
**Action Items**
- Get your skin and bones checked
- Get plenty of fluids and fiber
- Check your blood pressure if you are having issues with fatigue, balance or lightheadedness

# Action Items

- Stay active physically, mentally and socially
- Talk to your doctor about any non-motor symptoms you are experiencing (mood, energy, sleep, pain)
- Talk to your doctor about about memory issues, sleep problems and hallucinations (medications may be the cause)



*That's all Folks!*