

Not just the shakes: Non-motor symptoms

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Brain

- Cognitive deficits
- Dementia
- Visual hallucinations
- Anxiety
- Depression
- Apathy
- Fatigue
- Sleep disorders (including RBD)

Eye

- Blurred vision
- Diplopia

Nose

Reduced olfaction

Mouth

- Sialorrhoea
- Hypophonia
- Dysphagia

Shoulder

- Pain
- Stiffness

Heart

- Postural hypotension
- Blood pressure variability
- Cardiac dysrhythmias

Stomach

- Reduced gastric emptying

Intestine

- Poor motility
- Constipation

Bladder

- Urinary frequency
- Urgency

Genitals

- Reduced libido
- Erectile dysfunction

Beyond tremor, slowness, and stiffness...

1. Autonomic dysfunction

1. Constipation
2. Dizziness
3. Drooling

2. Sleep

3. Mood

4. Pain

(Decreased smell)

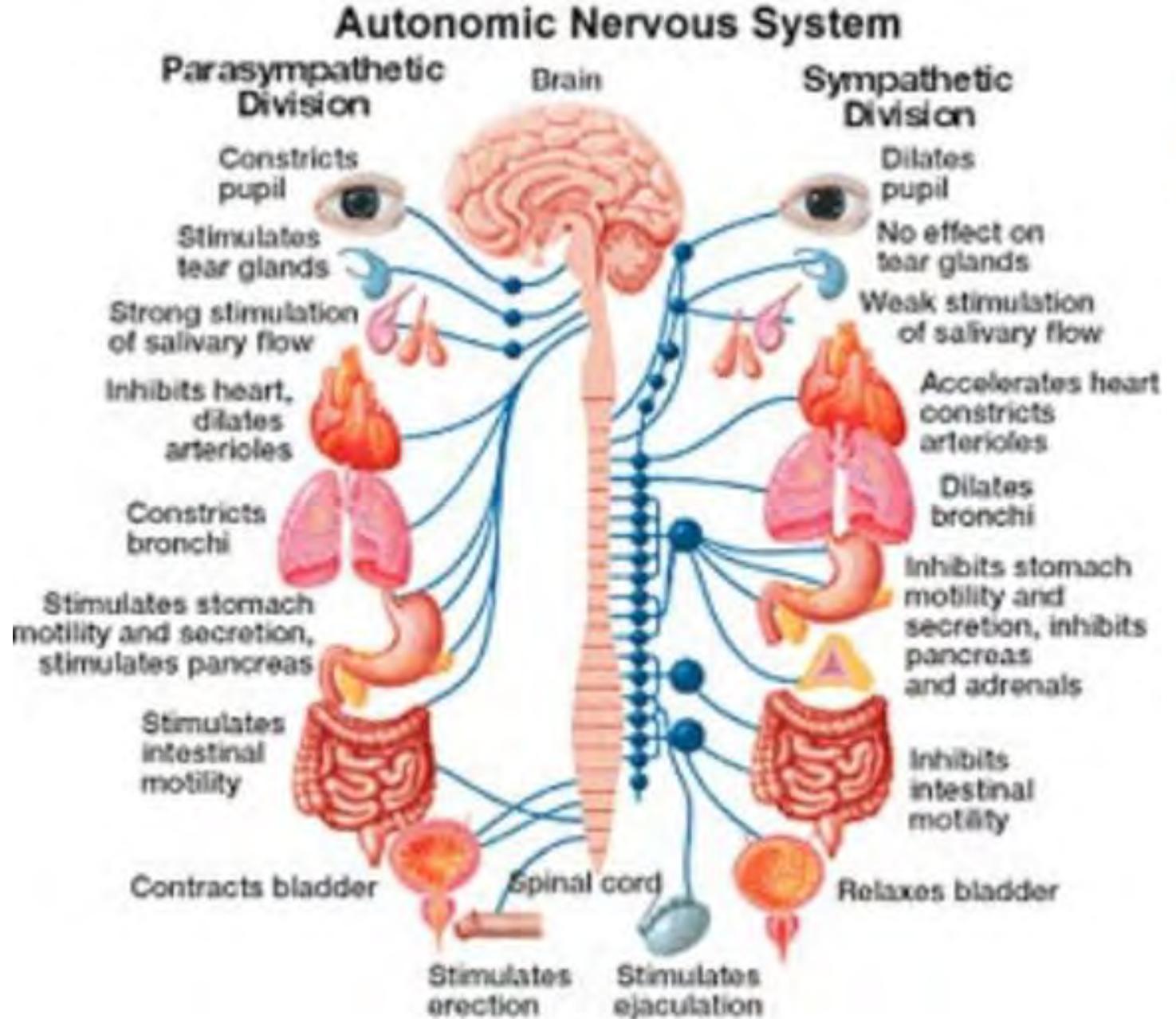
(Cognitive changes)

Autonomic dysfunction

Auto what???

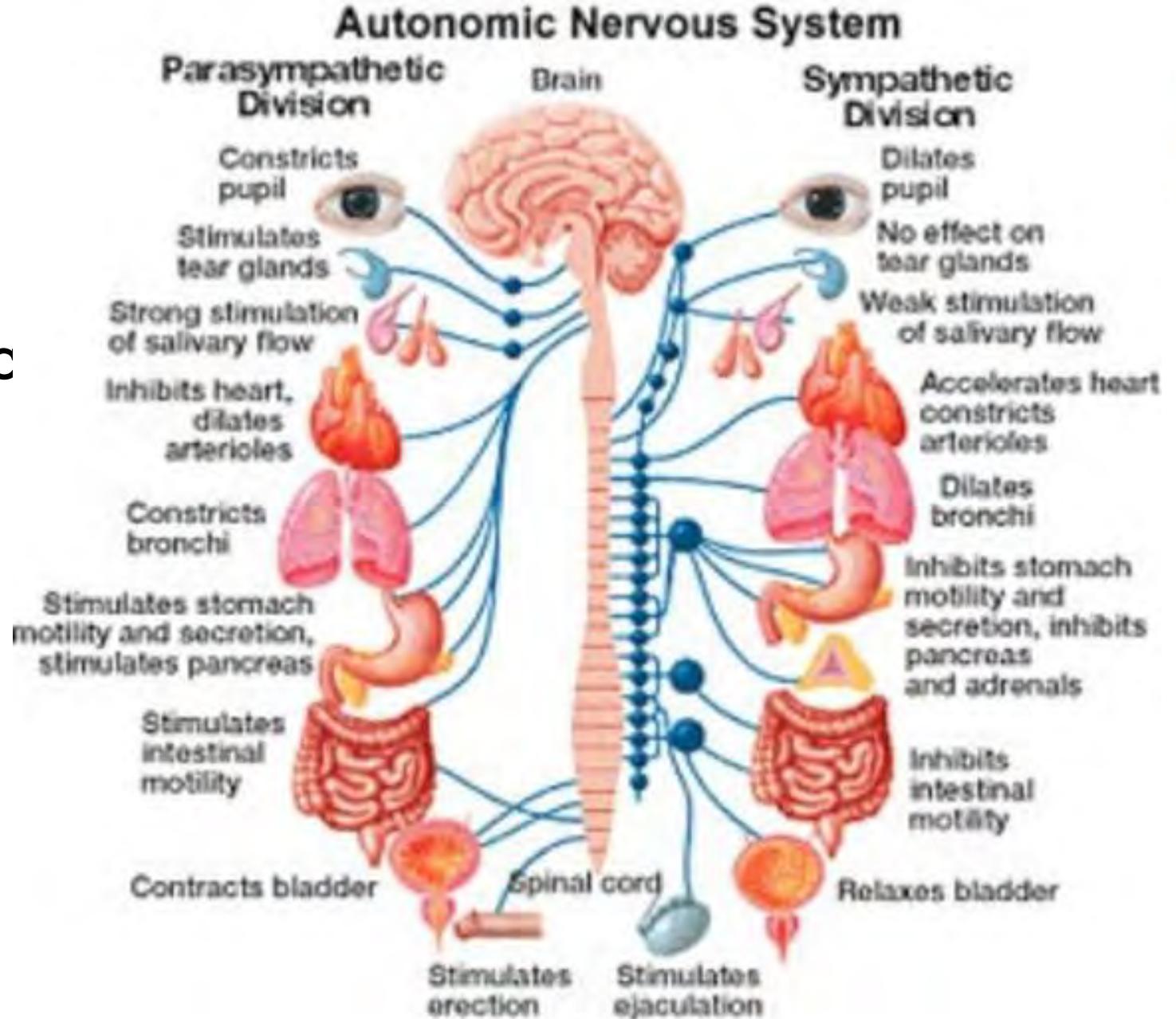
Autonomic = automatic

Dysfunction = not working



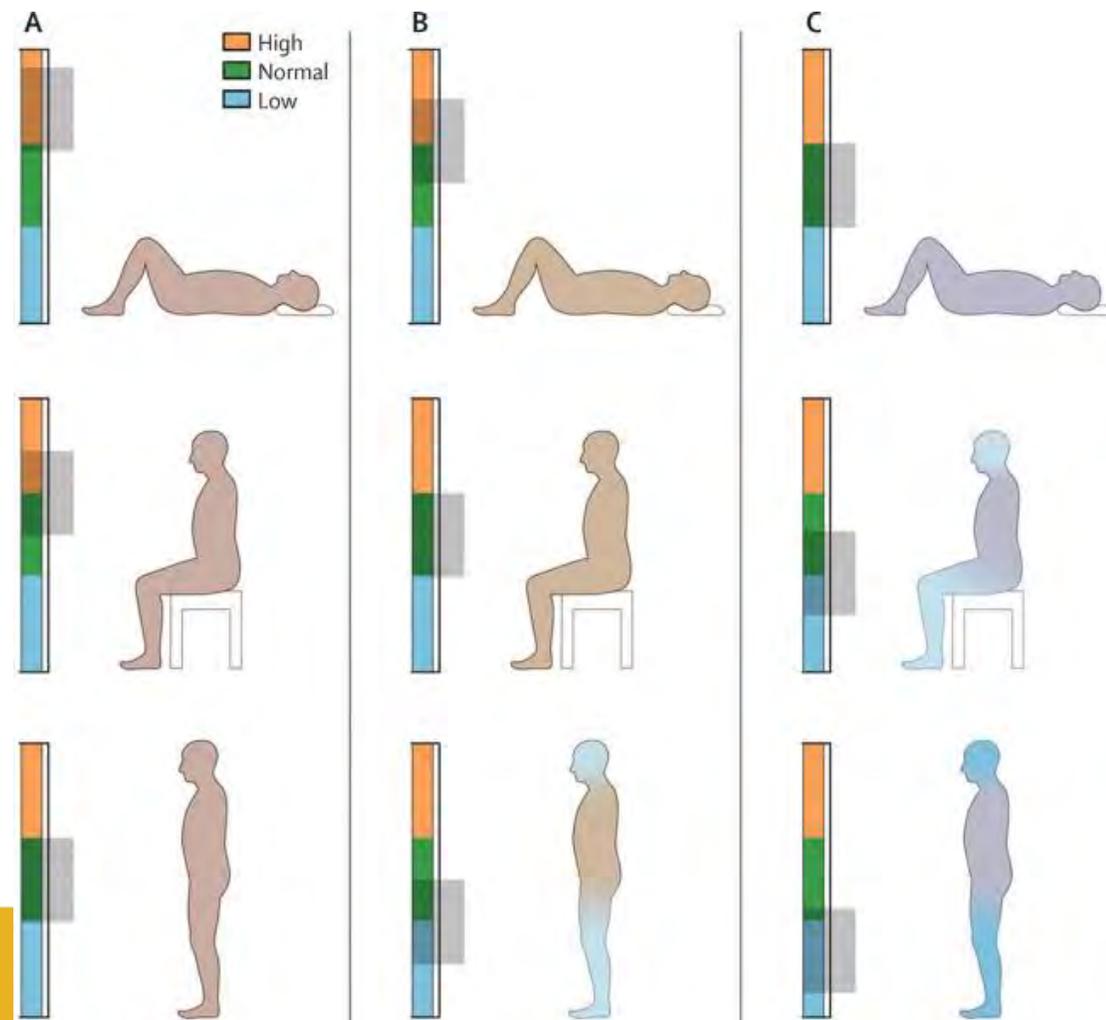
Auto what???

- Dizziness (“orthostatic hypotension”)
- Constipation
- Drooling
- Urinary dysfunction
- Erectile dysfunction
- Excessive sweating
- Dry eyes



Dizziness (orthostatic hypotension; nOH)

- Drop in blood pressure upon standing
- Symptoms: Light headed, dizzy, weakness, fatigue, vision change, poor concentration, head/neck pain, difficulty standing



Dizziness (orthostatic hypotension; nOH)

- Hydration
- **Exercise**
- Get up slowly
- Compression stockings, abdominal binder
- Prescriptions meds
 - Midodrine
 - Florinef (fludrocortisone)
 - Northera (droxidopa)

Constipation

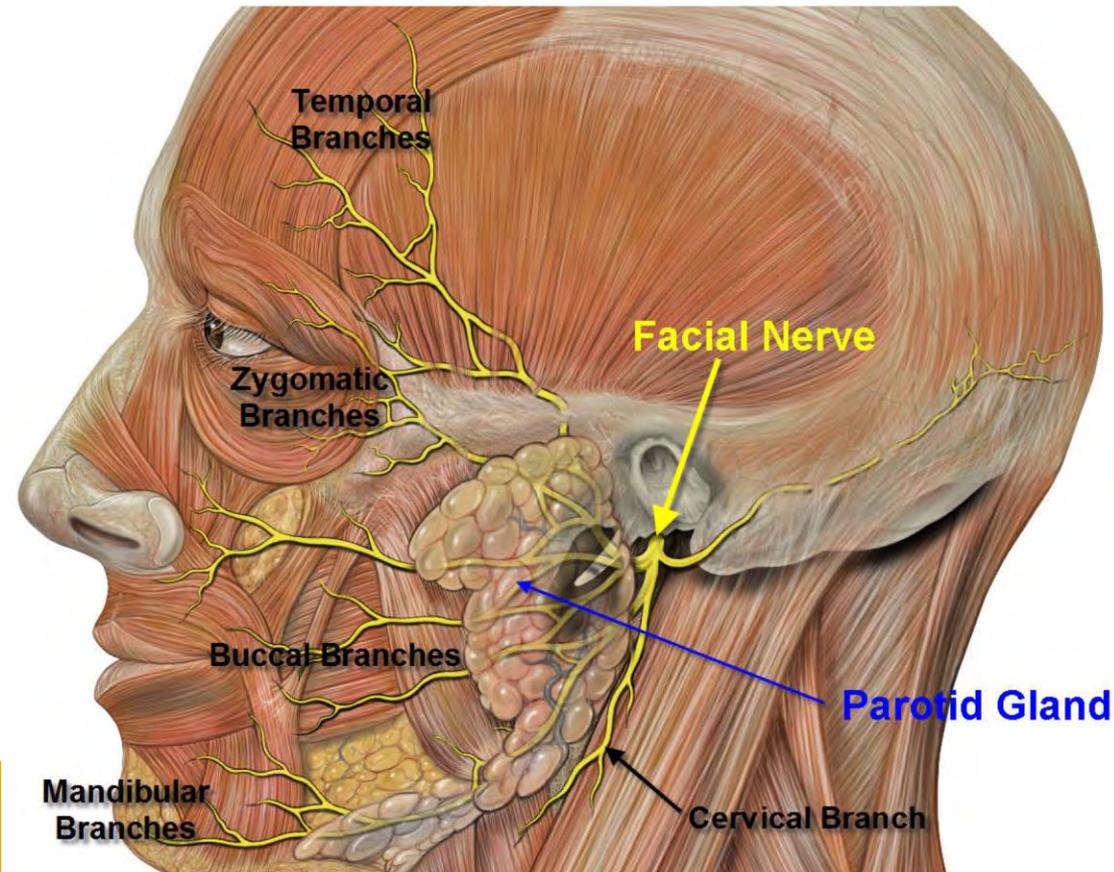
Regular routine = regular bowels!

- Hydration
- Diet – fruits, vegetables, whole grains; Probiotics
- **Exercise**
- Medications
 - Fiber supplement
 - Stool softeners
 - Laxatives
 - Newer “prokinetic” medications?

Drooling

Decreased spontaneous swallowing

- Gum, suckers
- Medications
 - Glycopyrrolate
 - Oral atrophine 1% eye drops
- BotulinumToxin injections



So many potential problems with sleep!

- Wakening due to motor symptom wearing off
- Obstructive sleep apnea
- Restless leg syndrome, periodic leg movements of sleep
- REM sleep behavior disorder
- Insomnia, sleep fragmentation
- Isolated excessive daytime sleepiness

Treating sleep disturbance

Regular routine = regular sleep!

- Maximize treatment of motor symptoms
- Get a sleep apnea evaluation; check ferritin

Treating sleep disturbance

Regular routine = regular sleep!

- Sleep hygiene
 - Consistent bedtime and wake time
 - No screens for 1.5 hours before sleep!
 - Be in bed only for sleep and relations
 - No caffeine after noon
 - Limit alcohol
 - Exercise

Treating sleep disturbance

Regular routine = regular sleep!

- Bright light therapy?
- Melatonin
- Prescription medications:
 - Klonopin (clonazepam)
 - Gabapentin (Neurontin)

Excessive daytime sleepiness / fatigue

- Hard to study
- Be sure sleep is as good as it can be
- Stimulants poorly studied
- Caffeine currently investigational (ha ha)
- Medications can help
 - Selegiline, Rasagiline
 - Amantadine

Mood

Yes, it's part of your Parkinson's!

- Depression – 35%
- Anxiety – 60%
- Apathy – 60%

Treating mood symptoms

- **Exercise**
- Depression – Venlafaxine, SSRI; CBT, rTMS
- Anxiety – Smooth motor symptoms
- Apathy – Rivastigmine



DAVIS PHINNEY
Foundation For Parkinson's

every victory counts.

Pain

Pain is complex....

- Can be primarily from your Parkinson's
- More commonly from concurrent conditions
 - Arthritis
 - Degenerative disc disease in the spine
 - Neuropathy

Treating pain

- Maximize treatment of motor symptoms
- Maximize treatment of concurrent conditions

ACTION STEPS

1. Exercise
2. Exercise
3. Exercise
4. Exercise

ACTION STEPS

1. Exercise
2. Eat well, drink enough water
3. Keep your daily *routine*
4. Ask your doctor for help!

Some nice review articles



1. Schapira et al. Non-motor symptoms of Parkinson's disease. [Nat Rev Neurosci](#). 2017 Jul;18(7):435-450. doi: 10.1038/nrn.2017.62. Epub 2017 Jun 8.
2. Seppi et al. Update on treatments of nonmotor symptoms of Parkinson's disease. *Movement disorders*. 2019 Feb;34(2):180-198
3. [Videnovic A](#). Disturbances of Sleep and Alertness in Parkinson's Disease. [Curr Neurol Neurosci Rep](#). 2018 Apr 19;18(6):29