

# Dysautonomia in Parkinson's Disease

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*Multi-system Manifestations of Progressive Brain Diseases*

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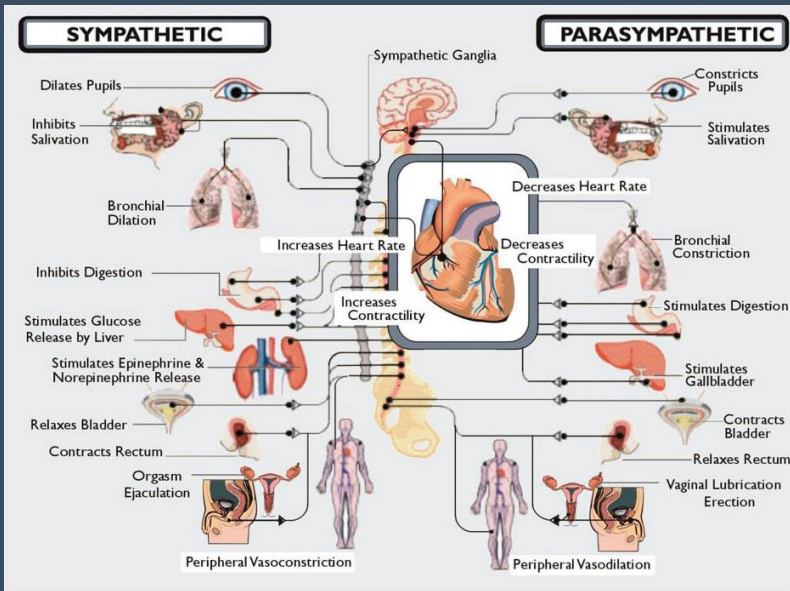


(Jonny Acheson 2019)

# Autonomic Nervous System

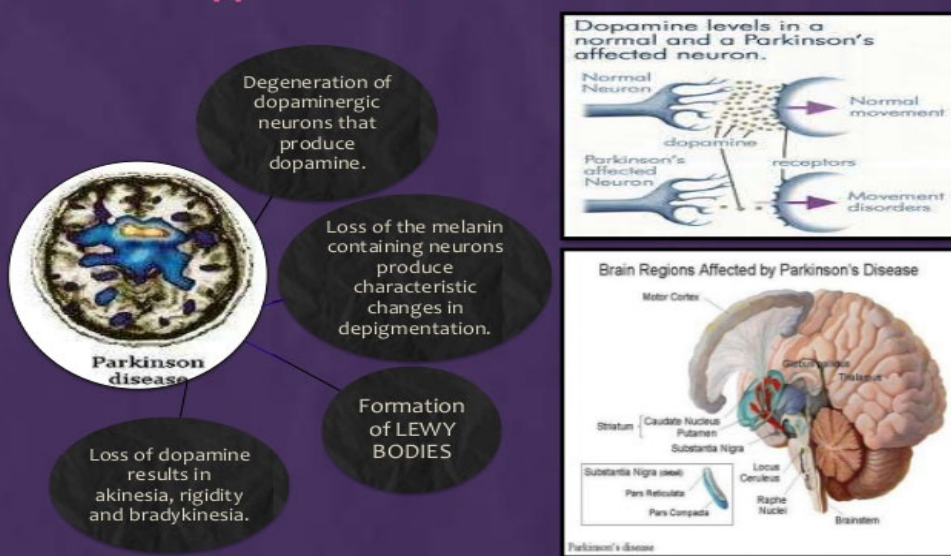
## Automatic

- Heart rate
- Blood pressure
- Urinary function
- Breathing
- Body temperature
- Digestion
- Sexual dysfunction



## Link to Parkinson's Disease

### What happens in Parkinson's Disease?



## Other Contributing Factors

### Medications

### Motor and non-motor treatment



### Adjunctive therapy

- MAO-B inhibitor
- Amantadine
- DA

## Cardiac Dysfunction

Neurogenic Orthostatic Hypotension (nOH) – very common  
~40-60% in varying disease stages  
symptomatic nOH roughly half

Symptomatic nOH: lightheadedness, fainting, limits activity/ADLs,  
FALLS!

\*Also, a limitation or barrier to therapeutic options for motor  
symptoms in PD

# nOH Management

Symptom assessment

BP logs and management: supine, seated, standing

\*consider 24 hour ambulatory BP monitoring

Non-pharmacological:

- Slow positional change
- Education
- Adequate/increased fluid intake

Pharmacological:

- Salt tablets
- Fludrocortisone, Midodrine, Pyridostigmine, Northera (droxidopa)

\* Caution/Education for supine hypertension



(Isaacson & Skettini, 2014)

# Urinary Dysfunction

Bladder: store and empty

~30-40% urinary dysfunction

- Urgency
- Frequency
- Nocturia
- Incontinence ~ 15%

Management:

- block or reduce overactivity: oxybutynin
- can exacerbate difficulty in emptying bladder
- UTI awareness --> 1<sup>st</sup> sign

Urology referral

(PDF, 2021)

## Digestive

Constipation ~40-50%

Delayed gastric emptying

Gastroparesis ~70-100%!

- Medication/Food absorption: protein role

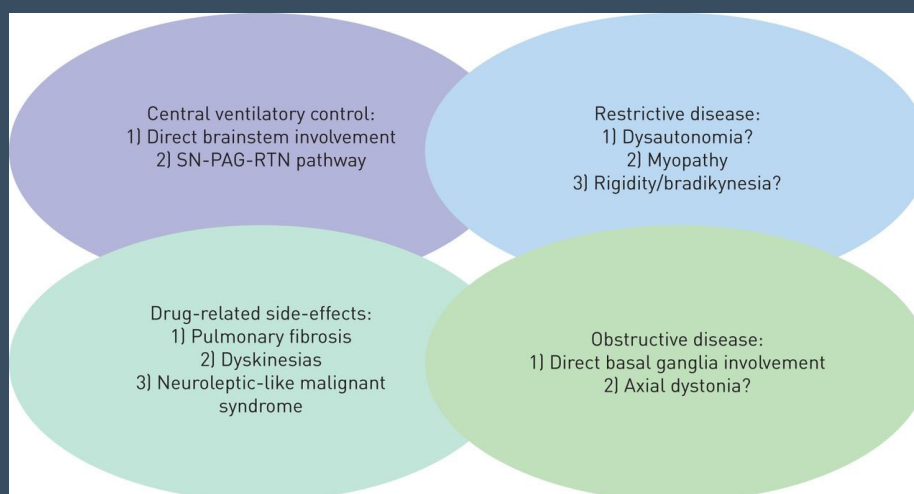


### Treatment:

- Lifestyle: exercise, diet –smaller meals, add fiber, hydration
- Stool softeners, laxatives, enemas, RX medications

(EPDA, 2021)

## Respiratory Changes



(D'Arrigo, et al, 2020)

# Thermoregulation

Heat/Cold Intolerance ~64% late disease

Hyperhidrosis

Excessive sweating: 'OFF', dyskinesia, night sweats

Medications: anticholinergic↓, L-dopa↑

Treatment:

- loose, cotton clothing/bedding; hydration; avoid triggers (alcohol), BoNT
- avoid overheating, shade, moisturize

# Sexual Dysfunction

Decreased libido (50-70%)

Erectile dysfunction (60%)

~over half reported some degree of sexual dysfunction

Treatment:

Urology

Meditation/Stress Relief

Therapy/Counseling

(Raciti, et al, 2020)

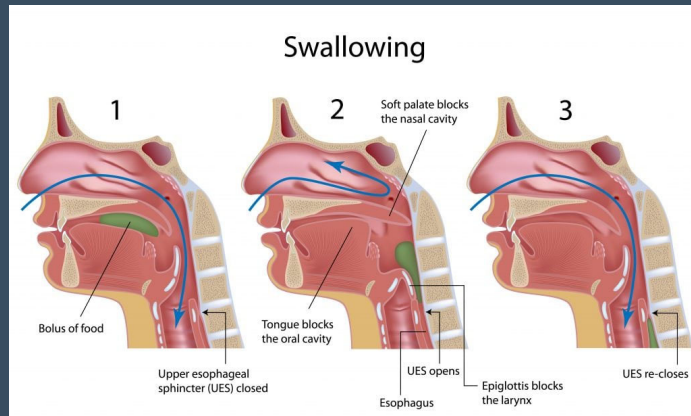
# Dysphagia & Sialorrhea

## Dysphagia ~80%

- Evaluation
- Early identification
- Speech therapy

## Sialorrhea ~30-75%

- BoNT
- Atropine 1%
- Glycopyrrolate



(APDA, 2019) & (Miller, Walshe & Walker, 2019)

# Dysautonomia extras

- Hyposmia/Anosmia
- Change to taste
- Rhinorrhea
- Seborrheic dermatitis



## Summary

Dopamine loss → ANS failure

Autonomic = Automatic → many systems impacted

Dysautonomia can contribute to debilitating symptoms

Complex management

Multidisciplinary care support needed, QOL

# Thank you!



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