



a place of mind

THE UNIVERSITY OF BRITISH COLUMBIA

Pharmacists Clinic

Faculty of Pharmaceutical Sciences

Identifying and Addressing Non-Motor Symptoms of Parkinson's Disease

Tiana Tilli, PharmD, ACPR, RPh

Clinical Pharmacist and Lecturer, UBC Pharmacists Clinic

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Slides created by: Sonia Sharma, BSc, E2P PharmD 2024

Land Acknowledgement

I would like to acknowledge that the University of British Columbia (UBC) and the UBC Pharmacists Clinic (the Clinic) are located on the traditional, ancestral, and unceded territory of the Musqueam people.

I would also like to acknowledge that you are joining us today from many places, near and far, and acknowledge the traditional owners and caretakers of those lands.

Agenda

- Non-Motor Symptoms
 - Lifestyle Strategies
 - Medication Management
- Natural Health Products
- UBC Pharmacists Clinic

Parkinson's Disease (PD)

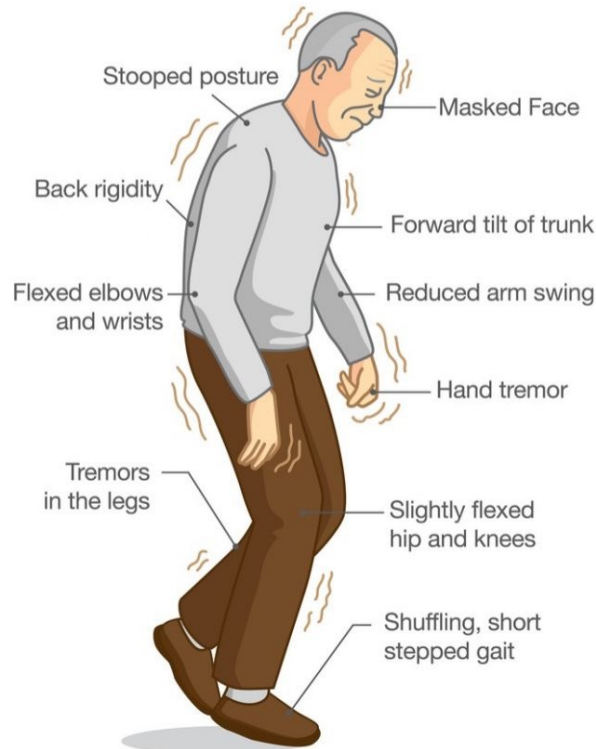


Image from: <https://peakptandwellness.com/blog/21499/What-is-Parkinson-s-Disease-and-How-Peak-Can-Help->

What is PD?

- A progressive **movement disorder**¹
- Parts of the brain controlling movement aren't working properly ¹

Why does this happen?

- Brain cells that make **dopamine**, a chemical messenger, become damaged and die¹
- Less dopamine leads to decreased dopamine signals and responses by the body and **motor + non-motor symptoms**¹

Non-Motor Symptoms of PD²



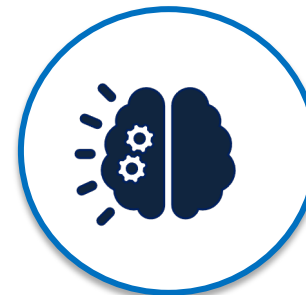
Difficulty Sleeping



Daytime Sleepiness



Memory Issues



Hallucinations



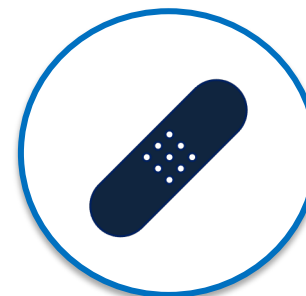
Mood Changes



Drooling



Low Blood Pressure



Aches + Pains



Constipation



Bladder Issues



Sexual Issues



Restless Legs

True/False

Caffeine pills should be the first thing I try for daytime sleepiness since it is available over the counter

FALSE

Daytime Sleepiness

- Due to changes in areas of the brain that control sleep²

Recommendations:

- **Lifestyle:**

- Exercise and stay busy
- Listen to upbeat music, brighten up the room
- Stay cool (splash cold water, turn on a fan)
- Set a consistent wake-up and sleep schedule

- **Medication:**

- May use more stimulating PD medications (rasagiline, selegiline, amantadine)^{2,3}
- Increase caffeine intake (supplement)⁴
- Prescription: Modafinil can help increase alertness^{2,5}

Memory Issues

- Due to drop in dopamine and other chemical levels in brain involved in cognition, memory and learning, and attention²⁻⁵

Recommendations:

- **Lifestyle^{6,7}:**

- Exercise: 30 min 2-3 times/week of aerobic, stretch, and strength⁸⁻¹¹
- Healthy eating: Avoid salt, sugar, fat, and alcohol^{12,13}
- Active mind: reading, puzzles, learning new activities⁷
- Good sleep: avoid caffeine, screens, and naps in the evening^{14,15}
- Quit smoking⁷

- **Medication:**

- Prescription: Donepezil, rivastigmine^{6,16-18}

Hallucinations

- Due to changes in brain areas that interpret visual images^{2,19}

Recommendations:

- **Lifestyle:**

- Track your hallucinations as they don't all need to be treated²:
 - Are they bothersome?
 - Can you tell they're not real?
- Discuss your hallucinations with your healthcare providers

- **Medication:**

- May reduce some PD medications²
- Prescription: Rivastigmine, donepezil, quetiapine, clozapine^{2,20,21}

Mood Changes

- Due to changes in chemicals and areas of brain that affect mood
- **Depression**: can be related to stress and sadness associated with PD²
- **Anxiety**: often occurs with depression in PD, common during “off periods”²

Recommendations:

- **Lifestyle:**
 - Keep engaged with family, friends, and community
 - Continue to exercise (30-60 minutes 2-3 times/week)
 - Join support and therapy groups
 - Speak to a professional:
 - E.g., social worker, therapist, psychologist
- **Medication:**
 - Prescription: Nortriptyline, citalopram^{2,22,23}

Nausea

- Due a breakdown of nerves in the gut as well as potential side effects from PD medications²

Recommendations:

- **Lifestyle:**

- Take medications with snack light, bland foods or a meal
- Eat and drink slowly. Have smaller meals more frequently
- Do not mix hot and cold foods together
- Avoid activity after eating

- **Medication:**

- May go away a few weeks after starting PD medication
- Reduce medication doses and increase more slowly
- Prescription: Domperidone, Ondansetron²

True/False

Adding fiber to meals can help treat and prevent constipation.

TRUE





Constipation

- Due a breakdown of nerves that control bowel movements²

Recommendations:

- **Lifestyle:**
 - Drink water and fluids
 - E.g., 8 cups of water daily
 - Exercise
 - E.g., walk 15-20 minutes daily to twice daily
- Add fiber to meals
 - E.g., bran, lentils, beans, prunes
- **Medication:**
 - OTC: **laxatives**, **bulking agents**, **stimulants**

Medications for Constipation²²⁻²⁵

	Laxatives		Bulking Agent	Stimulant
Example	Lactulose	PEG 3350	Psyllium Fiber	Sennosides
				
Dose	15-30mL one or two times a day	17 grams (capful) once daily	3.4 grams one to three times a day	2 tablets daily at bedtime
Onset	24-48 hours	2-4 days	12-72 hours	6-12 hours
Side Effects	Bloating, stomach upset, diarrhea		Bloating, stomach discomfort	Stomach pain, cramps, discolored urine or feces

True/False

Acetaminophen can be a good OTC option for aches and pains.

TRUE

Muscle Aches & Pains

- PD may increase sensitivity to pain, but cause is unclear²

Recommendations:

- **Lifestyle:**

- Stretch muscles
- Massage
- Warm bath

- **Medication:**

- OTC: acetaminophen 325-1000mg every 4-6 hours
(suggested max dose: 3,000 mg/day)^{2,26}

Restless Legs

- Often the cause is unknown but can be more severe with PD²⁷

Recommendations:

- **Lifestyle:**

- Avoid caffeine, nicotine and alcohol in the evening
- Walking around room or distract with reading
- Movement can provide temporary relief

- **Medications:**

- PD medications at night (levodopa, pramipexole, ropinirole)²
- Gabapentin^{2,28}

Sexual Issues

- Due to PD affecting sexual response and functioning^{2,29}
- Less dopamine may result in decreased sex drive and interest^{2,29}

Recommendations:

- **Lifestyle:**
 - Regular exercise (30 minutes 2-3 times/week)
 - Consider other forms of intimacy (speak to your partner)
 - Work with a relationship therapist or sex therapist
- **Medication:**
 - Prescription for men: Sildenafil^{2,29,30}
 - Prescription for women: Hormone replacement therapy^{2,31,32}

Natural Health Products (NHPs)

- Include vitamins, minerals and herbal compounds³³
- **Supplement** diet for health-related reasons³³
- Some can provide benefit but not risk-free^{33,34}
 - May lack evidence for use
 - Can have side effects
 - Can interact with medications, OTC products, or other NHPs
 - Can be costly and contribute to pill burden
- If tried, re-asses benefit after a couple months
- Talk to a pharmacist before starting!

Common NHPs Lacking Evidence in PD



Coenzyme Q-10



Omega-3



Vitamin E

Not recommended to slow progression of PD
due to lack of evidence for benefit.³⁵⁻³⁷

NHPs for Non-Motor Symptoms of PD



Ginkgo³⁸

- **Use:** symptoms of dementia, brain health
- **Dose:** 240 mg once daily
- **Side Effects:** Headache, dizziness, upset stomach, increased blood sugars
- **Caution:** May increase bleeding risk



Sennosides³⁹

- **Use:** constipation
- **Dose:** 17.2 mg once daily
- **Side Effects:** stomach upset, cramps, bloating, gas, diarrhea

Caffeine⁴⁰

- **Use:** daytime sleepiness
- **Dose:** 100-600 mg/day
- **Side Effects:** diarrhea, headache
- **Caution:** Avoid later in the day as can cause sleep difficulties and nighttime urination



Melatonin⁴¹

- **Use:** trouble sleeping
- **Dose:** 3-10 mg daily before bedtime
- **Side Effects:** sleepiness, morning grogginess
- **Caution:** Watch for morning "hangover"



NHPs for Bone Health in PD



Vitamin D^{42,43}

- **Use:** helps body absorb calcium for bone strength. Vitamin D deficiency is common in people with PD
- **Dose:** 800-2000 IU daily
- **Side Effects:** Well tolerated



Calcium^{43,44}

- **Use:** helps increase bone strength to prevent breaks if falls happen from motor symptoms
- **Dose:** 1200 mg/day (from diet and supplements)
- **Side Effects:** Constipation, upset stomach, gas, burping
- **Caution:** Do not exceed 2000-2500mg/day

Probiotics

- Contain **live microorganisms**^{45,46}
- Different probiotic have evidence for different uses^{45,46}



Constipation

- **Activia, Yakult, BioGaia**⁴⁵
- Improved stool consistency and frequency⁴⁷



Irritable Bowel (IBS)

- **Activia, Align, UltraFlora, Bio-K+**⁴⁵
- Reduced stomach pain, bloating, irregular stools⁴⁷



Weight Management

- **Genestra HMF Metabolic, UltraFlora**⁴⁵
- Helped reduce body fat and slimmed the waist⁴⁸



Mood + Affect*

- **Calm Biotic, Yakult, Probiotic Sticks**⁴⁵
- Improved symptoms of stress, anxiety^{49,50}

UBC Pharmacists Clinic



UBC Pharmacists Clinic
Faculty of Pharmaceutical Sciences

UBC Pharmacists Clinic

- Canada's first university-affiliated, licensed, pharmacist-led patient care clinic
- Opened November 2013
- Team of 6 clinical pharmacists
- 5 consultation rooms (currently closed)
- Medication management services

Pharmacists Clinic Overview

Goals of the Clinic:

1. The highest possible level of care to patients
2. Learning opportunities for health professionals and students
3. Research opportunities for the healthcare community

**We do not offer prescription filling services*

UBC Pharmacists Clinic

- Monday – Friday, 9:00 am – 4:00 pm
- By referral or self-referral
- Phone or video appointments at no cost to you
- Options for **one-on-one** and **group appointments**
- Book appointment by phone or online
 - <https://pharmsci.ubc.ca/pharmacists-clinic>
 - Phone: 604-837-2584

Pharmacists Clinic Services

Expert support from our pharmacists who will work to resolve problems you might be experiencing with your medications to help you achieve optimal, long-term health benefits.

Pharmacists Clinic Services

Assurance that you are listened to and included in decisions about your health.

Pharmacists Clinic Services

Answers and information so you understand what you need to know about your medications.



Pharmacists Clinic Services

A **team approach** where the pharmacist collaborates with the other health care professionals involved in your care. Students may participate in your care.



One-on-One Appointments

A personalized 60 minute initial appointment with a pharmacist as well as follow-up appointments lasting 30-60 minutes.



Pharmacists Clinic Services

The complete picture of how all your medications are working for you – prescription, non-prescription, supplement and natural health products.

Pharmacists Clinic Services

Detailed care plans along with regular follow-up to ensure you get the most benefit out of your medications.

Patient Examples

- Feeling like my symptoms of Parkinson's Disease are not well controlled
- Overwhelmed with the number of times in a day I have to take medications
- I think I might be experiencing side effects from levodopa treatment
- The benefit from levodopa is wearing off during the day or before my next dose
- I feel like my mood and sleep been affected by medications

Group Appointments

- We bring together groups of up to 10 people experiencing similar health issues to learn with and from each other. Group appointments usually run for one hour each month for 3 months
- Register: <https://tinyurl.com/groupappointments>

Group Appointments

- Upcoming Session Dates
- Fall 2021
 - Wednesdays from 6 pm – 7 pm
 - Oct 6th, Nov 3rd, Dec 1st
- Winter 2022
 - Tuesdays from 11 am – 12 pm
 - Jan 11th, Feb 8th, Mar 8th

Take Home Messages



- Different people experience different non-motor symptoms associated with PD
- Many non-motor symptoms can be addressed with lifestyle and/or medication interventions
- Pharmacists can help you address symptoms, discuss treatments, and attend to side effects
- Book with the Pharmacists Clinic (604-837-2584)
 - <https://pharmsci.ubc.ca/pharmacists-clinic>
 - <https://tinyurl.com/groupappointments>

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Thank you!

tiana.tilli@ubc.ca



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THE UNIVERSITY OF BRITISH COLUMBIA

Pharmacists Clinic

Faculty of Pharmaceutical Sciences

Vancouver Campus

2nd Floor, 2405 Wesbrook Mall
Vancouver, BC Canada V6T 1Z3

Phone 604 827 2584

Fax 604 827 2579

pharmacists.clinic@ubc.ca

www.clinic.pharmacy.ubc.ca