



PD 101:

**AN INTRODUCTION TO PARKINSON'S
DISEASE & ACT ON TIME**

for

Health Care Professionals

parkinson.ca

1-800-565-3000

Disclaimer

This presentation is for **informational purposes only** and does not represent medical advice. Neither does this presentation represent Parkinson Canada's endorsement of any products or treatments related to Parkinson's Disease.

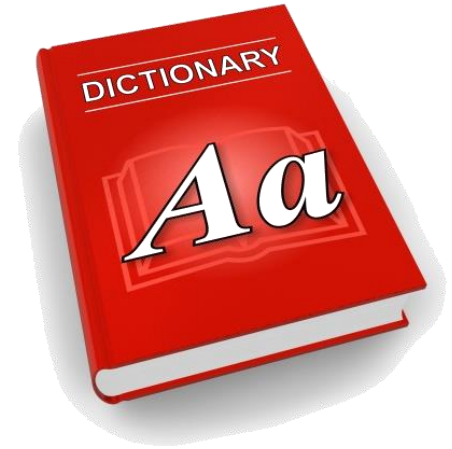
Any suggestions relating to clinical practice apply only within the scope of the practice standards to which you are obliged.

GENERAL INFORMATION

An Overview of Parkinson's Disease:
Symptoms, Stages and Medication

Terminology

- **Chronic**
 - Slow-progressing & longer-lasting
 - With PD, it's for a lifetime
- **Progressive**
 - Increasing damage over time
- **Neurodegenerative**
 - Nerve cell degeneration



What is Dopamine?

Dopamine is a **neurotransmitter** (i.e. a chemical communication system within the brain) that helps regulate movement and emotional responses by carrying signals in the brain region that controls movement, balance & coordination.



Produced in our brain stem (a.k.a. primitive brain or “lizard brain”) in an area called the ***Substantia Nigra***

Cardinal Signs

T → **Tremor** (*Fr.* Tremblement)

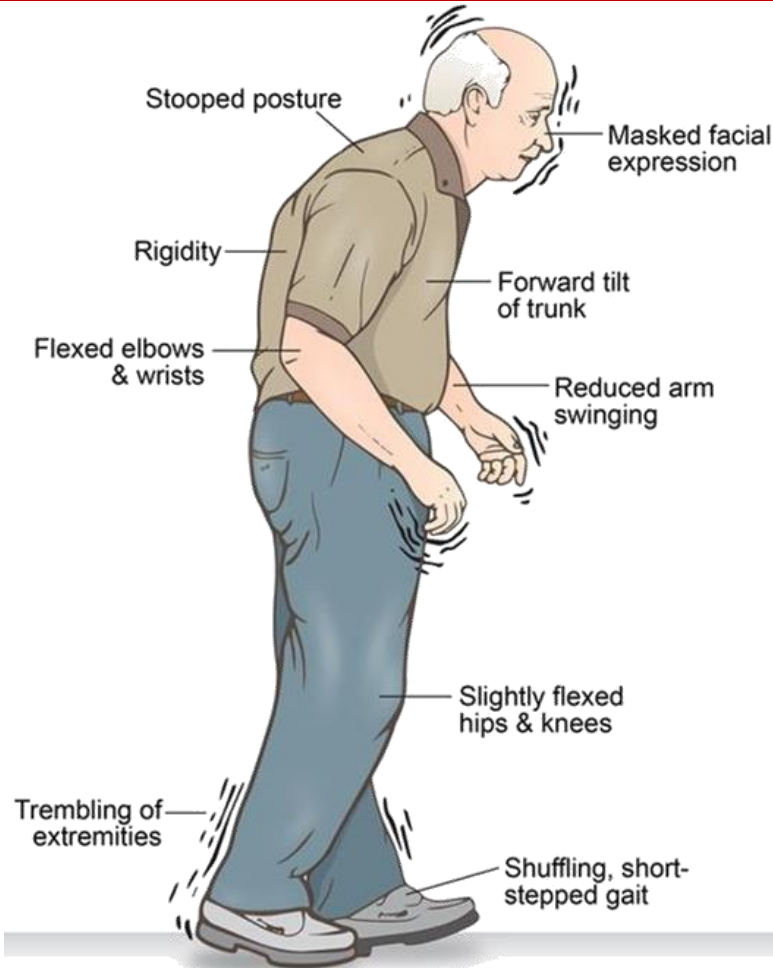
R → **Rigidity** (*Fr.* Rigidité)

A → **Akinesia or Bradykenesia** (*Fr.* Akinésie/Bradykinésie)



P → **Postural Instability** (*Fr.* Instabilité Posturale)

Freezing of Gait & Festination



FOG

+


F



FALLING

An iceberg floating in the ocean. The top part is above the water surface, and the much larger bottom part is submerged. A yellow arrow points from the text 'THIS IS ALL WE REALLY SEE' to the visible tip of the iceberg.

THIS IS ALL WE REALLY SEE

A yellow sticky note with a red pushpin at the top, placed over the submerged part of the iceberg. The note contains the text 'What about the non-motor symptoms?'

*What about
the non-motor
symptoms?*

**SLEEP
DISORDERS**

**PSYCHOSES
COGNITION
BEHAVIORAL
DYSFUNCTIONS**

**BOWEL &
BLADDER
ISSUES**

**MOTOR
DYSFUNCTION**

**MOOD
DISORDERS**

**VISUAL
ABNORMALITIES**

**SENSORY
DYSFUNCTIONS**

**WEIGHT
CHANGES**

According to *Hamilton & Yang et al.* 2019

Percentage of People with Parkinson's Who Experience Various Symptoms

Slowed movement	91%	Fatigue & loss of energy	93%
Tremors	82%	Difficulty concentrating	78%
Poor balance/coordination	89%	Difficulty memorizing/recalling information	79%
Trouble speaking	70%	Difficulty understanding complex tasks	63%
Trouble writing	86%	Difficulty swallowing	60%
		Vision problems	58%
		Pain	66%
		Urinary issues	78%
		GI issues	78%
		Sleep issues	86%



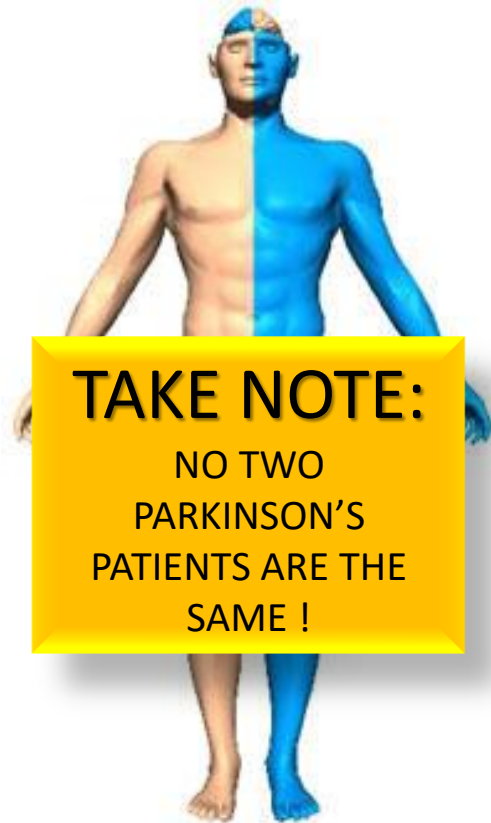
STAGES OF PARKINSON'S DISEASE: HOEHN & YAHR STAGING SCALE

Classification Of Parkinson's Disease Severity

Image credit: <http://www.parkinsonsresource.org/uncategorized/five-stages-of-parkinsons/>

Stage 1

- Mild symptoms
- Tremor and/or other cardinal signs
- Symptoms on one side of the body ONLY
- Minimal or no functional impairment



Stage 2

- Bilateral or midline involvement
- Tremor and rigidity
- No balance impairment
- Decreased blinking
- Speech abnormalities
- Softening of the voice



Stage 3

- Bilateral symptoms continue
- Impaired postural reflexes
- Balance impairment increases risk of falls
- Overall slowness of movement
- Person still physically independent in daily activities (i.e. dressing, eating, etc.)

Stage 4

- Bilateral symptoms continue
- Severe and limiting disability
- Person still able to walk or stand unassisted
- Need for help with some daily living activities
- Unable to live alone

Stage 5

- Most advanced stage of debilitation
- Rigidity may make it impossible to stand or walk
- Wheelchair bound or bedridden
- Requires 24-hour care and support
- May experience hallucinations and/or delusions



**REMEMBER:
NO TWO PARKINSON'S PATIENTS
ARE THE SAME !**

TREATMENTS FOR PD

- Medications
- Surgical Options
- Alternative Therapies



Medications

- Dopaminergic Drugs
- Dopamine Agonists
- Amantadine
- COMT Inhibitors
- MAO-B Inhibitors
- Anticholinergics



Levodopa

- **Gold Standard** – first line drug
- Developed in the 1960s
- Treats the motor symptoms of PD
- Synthesized in the brain into dopamine
- Carbidopa is a levodopa enhancer
- It prevents levodopa side-effect of nausea
- Combination with carbidopa requires less levodopa (80% less)

Types of Levodopa/Carbidopa

- **Sinemet[®]** → immediate-release pills
- **Sinemet CR[®]** → controlled-release pills
- **Prolopa[®]** → Levodopa & Benserazide
- **Duodopa[®]** → L/C gel for use with pump

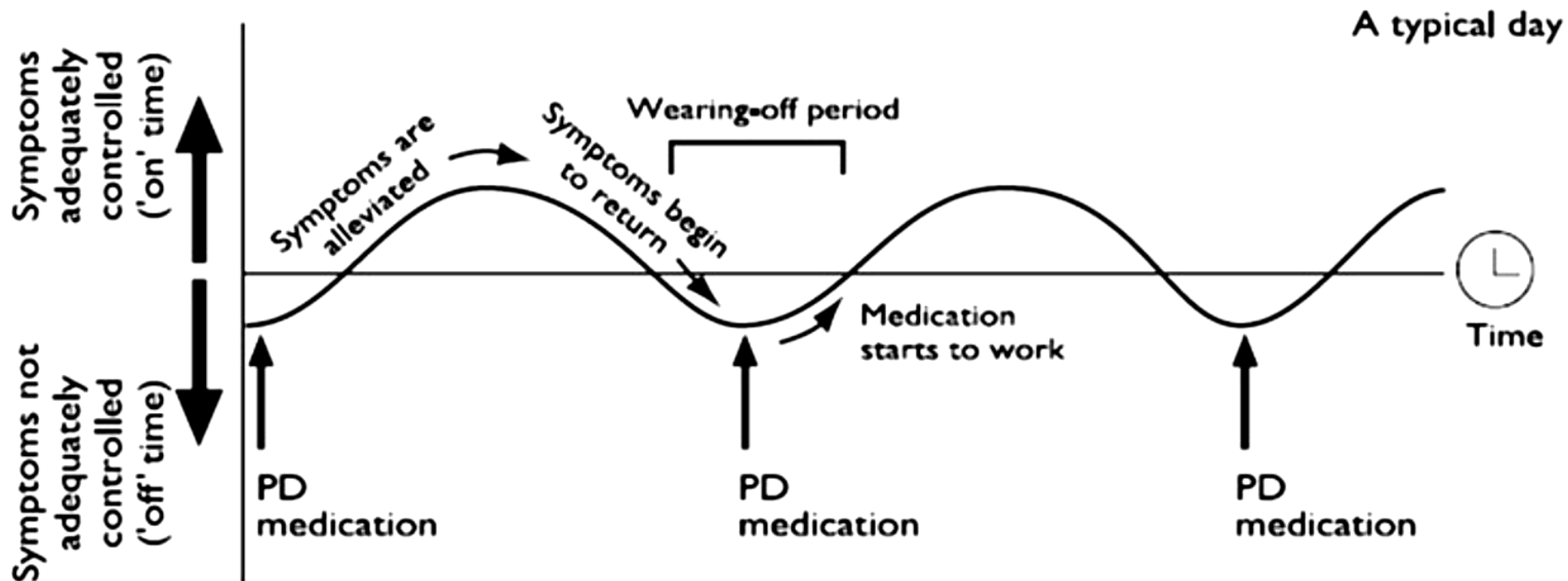


Levodopa: Side-Effects

- Hallucinations
- Nausea and/or heartburn
- Confusion
- Dizziness/Orthostatic hypotension
- Vivid dreams
- Fatigue

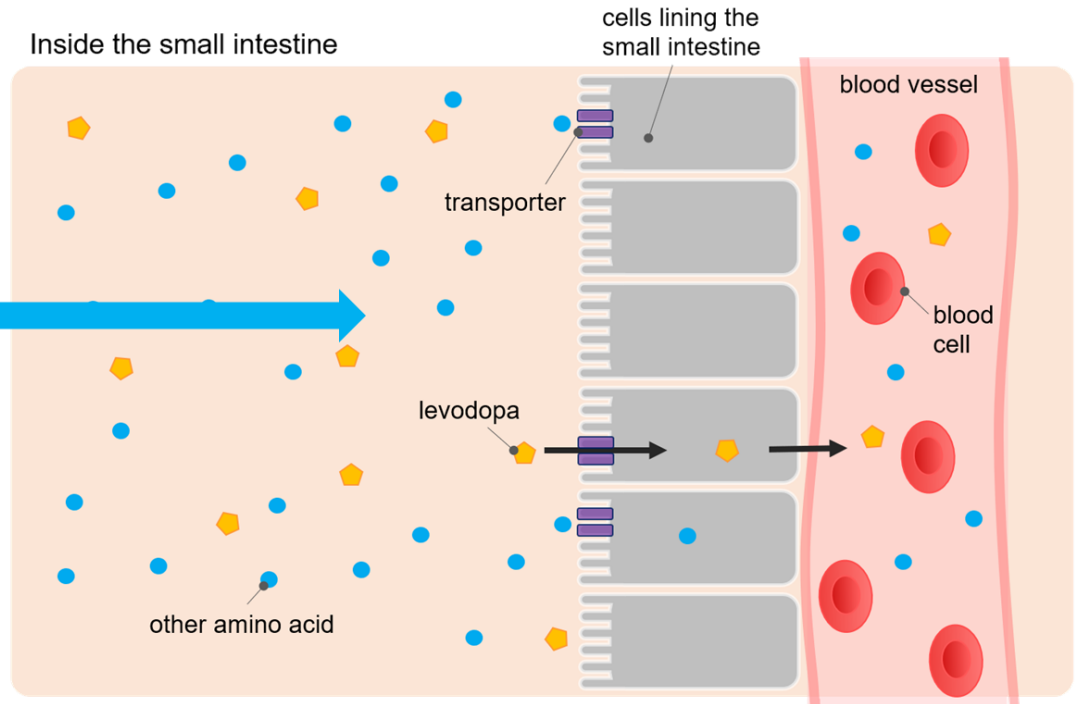


Why do problems occur?



An **Important** Factor

Dietary Protein Absorption



Factors that Impact Efficiency of Meds

- **TIMING***
- Stage of the disease -- **PROGRESSION**
- Stress levels
- Other medical conditions & their medications
- Constipation & dehydration
- Infections
- Generic substitutions
- Diet & Nutrition:
 - Protein consumption – delay meds by 1-2 hours after
 - Empty Stomach – allows better absorption



Surgical Options

- Surgical Placement of the PEG for the Duodopa[®] Infusion System
- Deep Brain Stimulation (DBS)



SNAPSHOT OF PD

- Neurodegenerative
- Motor/Non-motor symptoms
- Dopamine cell death
- Meds but no cure
- Avg. age of diagnosis is 60*
- <100,000 living with PD
- Double by 2031



Parkinson Canada's **Newest Tools**

ACT»
on time™



What is **ACT on Time**™?



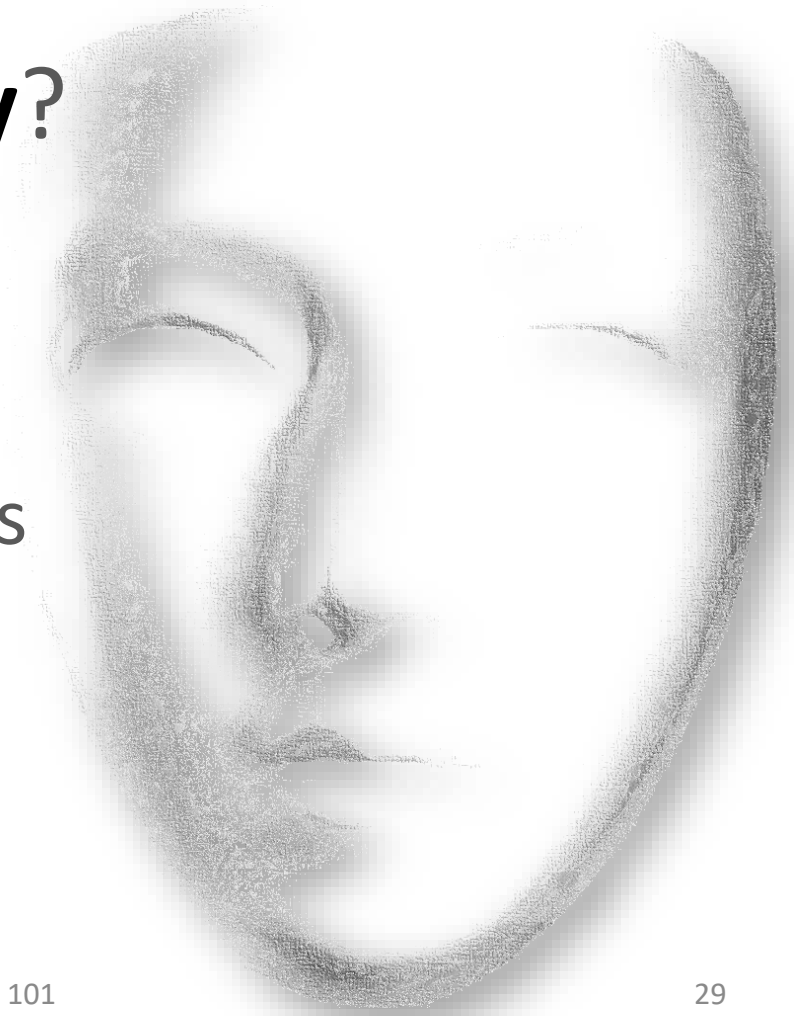
ALERTS, CARE & TREATMENT on Time™

- Medications are provided **on time – every time!**
- Accidents are prevented
- Setbacks are avoided
- Communication is supported
- Symptoms are better managed
- Care is more easily navigated
- Health outcomes are improved
- Quality of life is maintained



Who is it for and **why**?

1. People with Parkinson's
2. Care Partners / Caregivers
3. **Healthcare Providers**



Research has found that more than 3 out of 4 people with Parkinson's do not receive medications on time when staying in the hospital

Azmi, Hooman; Coccoziello, Lisa; Harvey, Renee; McGee, Margaret; Desai, Nilesh; Thomas, Jewell; Jacob, Blessy; Rocco, Anthony; Keating, Karen; Thomas, Florian P., *Journal of Neuroscience Nursing*: [December 2019 - Volume 51 - Issue 6 - p 313–319](#)

Delay in administration of PD medication of even 30 minutes or less can complicate hospitalization of patients with PD.

Azmi, Hooman; Coccoziello, Lisa; Harvey, Renee; McGee, Margaret; Desai, Nilesh; Thomas, Jewell; Jacob, Blessy; Rocco, Anthony; Keating, Karen; Thomas, Florian P., *Journal of Neuroscience Nursing*: [December 2019 - Volume 51 - Issue 6 - p 313–319](#)

Healthcare providers need...

**Awareness of
the Needs of
PWPs**

**PD Alerts &
Cautions**

**Guidance on
Individualized
Care**

**General PD
Information**

**Directions to
PD Resources**

**Knowledge of
Parkinson's
Treatments**

One Missed Dose: Weeks of Catching Up

Once a medication routine is disrupted, it may take hours, days or even weeks to recover to previous independence

Uneven release of dopamine means that a person may suddenly not be able to move, get out of bed, walk down the hall, feed themselves, etc.

Administration of medications on time is crucial
5-10 min late can make the difference

ON TIME – EVERY TIME!

Keep to patient's schedule!



Complications of Medication Wearing off

- **Falls** — due to rigidity, postural instability, freezing and bradykinesia
- **Aspiration pneumonia** — due to dysphagia from impairment in the muscles needed for swallowing
- **Incontinence** — due to rigidity and bradykinesia which impairs the ability to get to the bathroom
- **Skin breakdown** — due to the inability to change position freely
- **Emotional distress** — due to feelings of helplessness, frustration, anxiety, fear, depression, embarrassment

(Parkinson's Foundation, 2019)

Tools and Resources

- Alert items and information
- Guidance on care and mitigating risks
- Treatment information (best practices)
- Communication tools
- Informational sheets and booklet
- Other very useful things



Introduction for Health Providers **ACT on time**

Parkinson Canada educates healthcare professionals in the community so that people living with Parkinson's receive appropriate care for their unique needs at every stage. It's important that people with Parkinson's get their medications on time, every time, especially during stays in hospitals or long term care facilities. An interdisciplinary team of health professionals can help people with Parkinson's enjoy a better quality of life, for as long as possible.

Welcome to ACT on Time™, your comprehensive program for the Alerts, Care and Treatment (ACT) of Parkinson's disease. Each tool within the program is intended to help you better manage your Parkinson's patient. Descriptions of these tools, and suggestions for how you, other staff and your patients may use them, follow.

ACT on Time™ Items*

Parkinson's Disease Hospital Notification and Alerts

- Place notification on the wall by the bed and/or at the entrance to the room to alert nurses and others of patient's condition and needs
- Place stickers in the patient chart (hardcopy) or on any papers to bring attention to the patient's Parkinson's disease condition and special requirements.
- Place magnets on the patient's hospital bed (footboard/headboard)

Medication Alerts pad

- Each page provides critical information on which medications to avoid and which medications may be substituted. Tear off a sheet and give one to each new health professional who provides care to you at appointments, in hospital, long-term care and emergency settings.

Parkinson's Disease Medical Alert card

- Once completed, keep in your wallet and use with emergency responders and hospital staff to bring awareness of your medications and needs relating to your Parkinson's disease, your emergency contact and other vital information

ACT on time

Person's Disease booklet
Effects and drug interactions for health professionals

and
Nurses and health professionals to use to
Canada for information, resources and services

You need to know

Facilities, hospital emergency departments
wards

ACT on Time™ program for people living with Parkinson's and to help individuals and care partners on how to best manage

Right Web sheet
Alerts and Alerts

Medication Settings booklet

4211 Yonge St, Suite 316, Toronto, ON M2P 2A9 | 1.800.565.3000
Parkinson.ca | ACT@pcc.ca | info@parkinson.ca

Important information	This Card belongs to:	In Case of Emergency	ACT on time
<ul style="list-style-type: none"> I must get my medications on time - every time Ask, I may have problems with my medication - please help I would like my health care workers to know I have Parkinson's disease and need my medications on time I take my medications based on the advice of my doctor, as the time instructed (before or after each meal) Do not give me any new medications without first consulting with a specialist 	<p>Name: _____</p> <p>Address: _____</p> <p>Home Phone: _____</p> <p>Cell Phone: _____</p> <p>Work Phone: _____</p>	<p>Name: _____</p> <p>Address: _____</p> <p>Home Phone: _____</p> <p>Cell Phone: _____</p> <p>Work Phone: _____</p>	<p>Medical Alert</p> <p>I have Parkinson's disease and need my medications on time.</p> <p>Please do not assume. Let us know, immediately, completely impaired or incapacitated.</p> <p>Parkinson Canada 1.800.565.3000</p>

Time(s)	Medication(s)	Dosage(s)	Drug Category	Recommendations
			ANTIPSYCHOTICS	Use the following instead: Clozapine (Leponex) Quetiapine (Seroquel)
			NARCOTIC ANALGESICS	Ask for Oxycodone or Buprenorphine instead of Morphine
			ANESTHESIA	Pre-medication with anti-nausea drugs is essential. Avoid propofol, sevoflurane, and isoflurane if possible. Use of propofol, sevoflurane, and isoflurane may increase the risk of aspiration pneumonia.
			NAUSEA / GI MEDS	Avoid the following: Cisapride (Propulsid) Erythromycin (E-mycin) Metoclopramide (Reglan) Morphine (Morphine) Naloxone (Naloxone)
			ANTIDEPRESSANT	Avoid Amitriptyline



ALERT Parkinson's Notification **ACT on time**

I am _____ and I have Parkinson's disease. There are some important things you should know in order to properly manage my care. PLEASE:

- Ensure I get my medications on time - every time
- Exercise patience - it takes me longer to talk, walk and eat
- Speak clearly and slowly - I need time to process information, questions and my responses
- Ask if I need support if I appear to have difficulties moving - please don't pull or push me
- Assist me, if I need it, into a seated position before I eat or drink
- Ensure my safety if I am having difficulties with freezing, fainting, swallowing or responding - I have a high risk of falling, choking or passing out
- Alert a social worker or mental health professional if I become depressed, anxious or experience hallucinations
- Refer me to a specialist if there are any sudden changes in my symptoms - that is not normal progression of Parkinson's

Parkinson Canada 4211 Yonge St, Suite 316, Toronto, ON M2P 2A9 | 1.800.565.3000
Parkinson.ca | ACT@pcc.ca | info@parkinson.ca

ALERTE Parkinson **AGIR à temps**

Je suis _____ et je suis atteint(e) de la maladie de Parkinson. Il y a certaines choses importantes que vous devez savoir pour bien gérer mes soins. S.V.P. :

- Prendre mes médicaments à temps
- Être patient - il me faut plus de temps pour parler et manger
- Parler et aller lentement - j'ai besoin de temps pour traiter l'information, les questions et mes réponses
- Demander de l'aide si j'ai l'impression d'avoir des difficultés à me déplacer - veuillez ne pas me tirer
- M'aider, si j'en ai besoin, à m'asseoir avant de manger
- Assurer ma sécurité si j'ai des difficultés avec les épisodes de gèl, de chute, de difficulté à avaler ou à répondre - j'ai un risque élevé de chute, d'étouffement ou d'évanouissement
- Alertez un travailleur social ou un professionnel de la santé si je semble souffrir de dépression, d'anxiété ou d'hallucinations
- Envoyez-moi un spécialiste en cas de changement soudain de mes symptômes

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Parkinson.ca | AGIR@pcc.ca | info@parkinson.ca

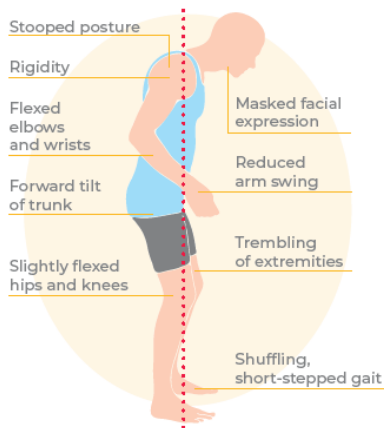


PARKINSON'S DISEASE

What You Need to Know

Motor Symptoms of Parkinson's - remember T.R.A.P.

T Tremor **R** Rigidity **A** Akinesia or bradykinesia **P** Postural Instability



ALERTS!

Parkinson's is much more than a movement disorder

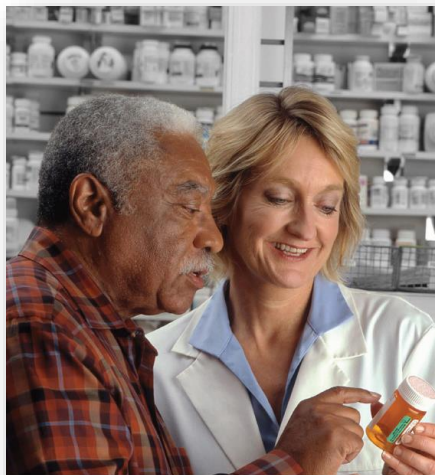
Non-motor symptoms of Parkinson's affect a person's quality of life. Watch for:

- Bowel and bladder problems
- Sleep disorders
- Speech and vocal difficulties
- Cognitive changes
- Hallucinations
- Mood disorders
- Sexual dysfunction
- Sensory dysfunctions
- Weight changes
- Impulse control disorders (may be due to some types of Parkinson's medications)

Dietary protein can affect Levodopa effectiveness

Give medication

30 minutes before or 2 hours after a meal to avoid complications



MEDICATIONS TO TREAT PARKINSON'S DISEASE

Parkinson Canada



Managing My Parkinson's Disease in Healthcare Settings

ACT on time

Approved Parkinson's Medications		Drug Alerts!	
Class	Generic Name	Side Effects	
Anticholinergics	benztropine trihexphenidyl procyclidine	<ul style="list-style-type: none"> Constipation Blurred vision Urinary retention Hallucinations or confusion Orthostatic hypotension or dizziness similar to side effects above, PLAC	<p>If a Parkinson's patient needs...</p> <p>Antipsychotics</p> <p>Use the following (after atomoxetine) instead:</p> <ul style="list-style-type: none"> clozapine (Leponex) or risperidone (Invega)
COMT inhibitors	entacapone levodopa + carbidopa tolcapone	<ul style="list-style-type: none"> Dizziness Dyskinesia Syncope Prolonged diarrhea similar to side effects above, PLAC	<p>Maroptic Analgesics</p> <p>If patient is taking zolpidem or zolpidem CR, AVOID tramadol</p> <p>If patient is taking zolpidem or zolpidem CR, AVOID tramadol</p>
Dopamine agonists	bromocriptine pramipexole ropinirole rotigotine	<ul style="list-style-type: none"> Impulse control disorders Psychosis Leg edema similar to all side effects above, PLAC	<p>Anesthetics</p> <ul style="list-style-type: none"> propofol (Diprivan) etomidate (Amidate) midazolam (Versed) propofol (Diprivan) propofol (Diprivan) propofol (Diprivan)
Dopaminergics	levodopa + carbidopa levodopa + carbidopa (SR) levodopa + carbidopa (CR) levodopa + benserazide	similar to all side effects above, PLAC	<p>Anti-nausea and stomach medications (GI meds)</p> <p>AVOID the following:</p> <ul style="list-style-type: none"> metoclopramide (Reglan) ondansetron (Zofran) promethazine (Phenergan) prochlorperazine (Compazine)
MAO-B inhibitors	rasagiline safinamide	similar to all side effects above, PLAC	<p>Antidepressants</p> <p>AVOID amitriptyline (Elavil)</p>
NMDA antagonist	amantadine	similar to all side effects above, PLAC	

A Parkinson's Prescription for You

I recommend that you contact Parkinson Canada to discuss and understand your diagnosis and prognosis. You, your family or caregiver will have many questions and there are answers available. Take that first step by calling 1-800-565-3000 today.

Experienced personnel will listen and treat you with respect and confidentiality. You will receive helpful information and learn about community resources that may improve your quality of life. Email info@parkinsonca.ca to get started.

Visit www.parkinsonca.ca to learn about living well with Parkinson's.

Referred by: _____ Date: _____

Parkinson Canada
Parkinson Canada | 316-421 Yonge Street, Toronto ON M5P 2A9

Parkinson Canada
316-421 rue Yonge, Bureau 316, Toronto ON M5P 2A9

A Parkinson's Prescription for You

Je recommande de contacter Parkinson Canada afin de discuter et comprendre le diagnostic de la maladie de Parkinson que vous avez reçue. Des réponses à toutes les questions de votre famille ou d'un soignant sont disponibles. Prenez cette première étape en appelant le 1-800-565-3000.

Des professionnels sauront vous accueillir et vous écouter avec respect et confidentialité. Vous recevrez des informations utiles sur les ressources dans votre communauté qui vous aideront à améliorer votre qualité de vie. Contactez info@parkinsonca.ca pour débiter la conversation.

Prenez davantage sur la maladie de Parkinson et vivez mieux avec elle, visitez www.parkinsonca.ca.

Date: _____

Parkinson Canada
Parkinson Canada | 316-421 Yonge Street, Toronto ON M5P 2A9

What can you do to help?

- Medication management is the most important part of controlling Parkinson's symptoms.
- Parkinson's is a progressive disease so a resident's needs will change over time.
- Coping with Parkinson's involves a variety of unique challenges.



BE A PART OF THE SOLUTION



- **Share** your awareness & knowledge
- **Learn more** – Parkinson Canada
- Ensure medications are given **on time – every time!!**

Q&A

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