

**Parkinson's disease is characterized by the death of dopamine-producing cells, a chemical in your brain that, among other things, controls movement. This reduction in dopamine causes motor symptoms such as slowness, tremors, stiffness and problems of posture to appear.**

To this day, there is no cure for Parkinson's disease. Medication can attenuate its symptoms, but it cannot slow its progression. Rather, it helps compensate for the breakdown in the brain's dopaminergic system.

By taking medication, most people with Parkinson's disease can control their symptoms. This isn't the only therapeutic option available, but it is by far the most efficient. Most medication can result in more or less debilitating side effects.

The symptoms of Parkinson's disease vary from person to person. That's why drug regimens must be adapted to the individual. As symptoms change, the type of medication, how often it's taken and how much of it is taken change as well.

### ON A DAILY BASIS

Taking medication requires the person with the disease, as well as his/her caregivers and family be properly organized and have the requisite knowledge.

In the cycle efficiency of medication, we recognize two distinct phases: « ON » phase, when medication is working well and symptoms are under control, and « OFF » phase, when medication does not control symptoms as efficiently.

For these reasons, altering the regularity of the schedule when medication is taken can have a direct effect on quality of life and independence.

Therefore, medication must always be taken and on time.

You can obtain a medication card, which will help you keep track of all of the medication you take, from Parkinson Québec.

### LEVODOPA

Levodopa is the “gold standard” for treating Parkinson's disease symptoms. It is the most effective molecule in the treatment of the motor symptoms of the disease. It works by replacing the dopamine in the brain. Levodopa is always combined with either carbidopa or benserazide which help the levodopa get into the brain where it is changed into dopamine. Levodopa may be used alone or in combination with other Parkinson's disease drugs.

#### Levodopa formulations available in Canada include:

- levodopa/carbidopa (Sinemet® and Sinemet®CR)
- levodopa/benserazide (PrProlopa®)
- levodopa/carbidopa with entacapone (Stalevo®)

#### Possible side effects:

- nausea or vomiting
- low blood pressure
- hallucinations (seeing, hearing, feeling and smelling things that aren't there)
- sleep problems, sleepiness
- dyskinesia (involuntary movements) (unpredictable response which normally appears after prolonged use)

For some people, proteins seem to interfere with the way levodopa works. The proteins may affect how well the drug is absorbed, therefore, you may benefit from taking your medication 30 to 60 minutes before a meal. For more information, see the pamphlet *Daily Living : Levodopa and Proteins*

If you experience nausea with levodopa, taking your pills with food can help. Sometimes the nausea will go away after you get used to the drug.

## **DOPAMINE AGONISTS**

Dopamine agonists imitate the effects of dopamine. They essentially mimic the molecule of the dopamine, and the brain recognizes them as such. Dopamine agonists may be used as the first medication to treat Parkinson's disease symptoms or in combination with other drugs.

### **Dopamine agonists available in Canada include:**

- ropinirole (Requip®)
- pramipexole (Mirapex®)
- bromocriptine (Parlodel®)
- rotigotine (Neupro®transdermal patch)

### **Possible side effects:**

- sleepiness, including sudden onset of sleepiness
- impulsive behaviours including uncontrolled eating, compulsive gambling, hyper-sexuality, excessive shopping – **Contact your physician if you experience any of these, or similar behaviours**
- leg swelling
- hallucinations (seeing, hearing, feeling and smelling things that aren't there)
- dyskinesia (involuntary movements)

## **CATECHOL-O-METHYLTRANSFERASE (COMT) INHIBITORS**

COMT inhibitors block an enzyme that breaks down levodopa before it can be turned into dopamine. This allows more dopamine to be available to be used by the brain. COMT inhibitors alone do not help Parkinson's disease – they must be used with levodopa. They prolong levodopa's effectiveness. They can be added if your dose of levodopa is not working for long enough (end-of-dose deterioration) or the effect wears off before your next dose is due.

### **COMT inhibitors available in Canada include:**

- entacapone (Comtan®)
- entacapone, levodopa, carbidopa (Stalevo®)



**Possible side effects:**

- nausea
- sleepiness
- light-headedness
- hallucinations (seeing, hearing, feeling and smelling things that aren't there)
- dyskinesia (involuntary movements)

**MONOAMINE-OXIDASE-B (MAO-B)  
INHIBITORS**

MAO-B inhibitors block an enzyme that breaks down dopamine in your brain, prolonging its duration of effectiveness.

MAO-B inhibitors may be used to control symptoms in early Parkinson's disease or in combination with other drugs.

**MAO-B inhibitors available in Canada include:**

- selegiline (Eldepryl®)
- rasagiline (Azilect®)

**Possible side effects:**

- interaction with other medications, particularly antidepressants and decongestants
- headaches
- nausea
- hallucinations (seeing, hearing, feeling and smelling things that aren't there)
- dyskinesia (involuntary movements)
- flu-like symptoms

**LEVODOPA/CARBIDOPA INTESTINAL GEL  
(DUODOPA®)**

Health Canada approved this method of administering levodopa and carbidopa. Instead of taking a pill, a tube is surgically placed into the small intestine. A pump attached to the tube then delivers the drug in the form of a gel into the small intestine. Treatment is available for patients with more advanced Parkinson's disease who are having trouble with managing their symptoms and side effects with oral drugs. Duodopa is currently available in Quebec in a limited and controlled fashion.



## **AMANTADINE**

This drug is used primarily to help reduce dyskinesia (involuntary movements) that may be a side effect of levodopa. It is also an antiviral drug used to treat the flu. Amantadine (Symmetrel®) alone does not help Parkinson's disease symptoms.

### **Possible side effects:**

- dry mouth
- dizziness
- nausea
- insomnia
- purplish discolouration of the skin and swelling of the legs

## **ANTICHOLINERGICS**

The anticholinergic pills help correct the imbalance of acetylcholine/dopamine ratio observed in Parkinson's disease. They may also help with slowness, tremors and rigidity.

### **Anticholinergics available in Canada include:**

- trihexyphenidyl (Artane®)
- benztropine (Cogentin®)

### **Possible side effects:**

- dry mouth
- confusion, changes in memory, thinking, concentration
- constipation
- urine retention
- blurry vision

