When discussing medications and treatment options for Parkinson disease, we commonly think of Levodopa Carbidopa as the first line of defense to manage the disease. However, did you know there's multiple delivery methods of Levodopa? One of those delivery methods is Duodopa.

Duodopa continuously administers small amounts of the Levodopa Carbidopa medication in gel form through an automatic pump. The gel medication travels through a PEG-J tube directly to the small intestine to be utilized by the body to manage the motor symptoms of Parkinson's. The use of the tube allows the medication to bypass the stomach and is delivered directly to the small intestine, where it is best adsorbed (Tse, 2016). What makes this delivery method so incredible is that it allows for a steady flow of medication to ensure that levodopa levels in the body remain at a constant level, no more (or at least reduced) rollercoaster of ups and downs.

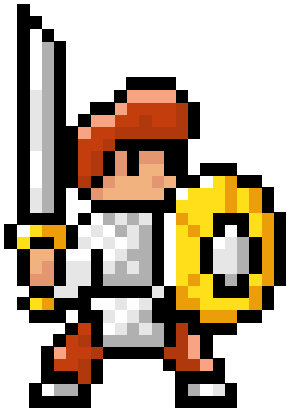
So how does it work? Basically, the pump skips the middleman (oral medication that needs to pass through the system and be absorbed into the small intestine) and automates the delivery to avoid significant drops between on and off periods. As a result, the use of oral Parkinson's medications can be reduced or eliminated while using the pump.

The Duodopa device itself consists of the pump, the medication cassette attached to the pump, the external Percutaneous Endoscopic Gastrostomy (PEG) tube that connects the pump to the stomach, and the internal Jejunal (J) tube that connects the PEG tube to the small intestine. The process to initiate the use of Duodopa starts with a surgery to make a small hole (stoma) in the abdomen to place the tube into the small intestine, which gets connected to the external pump. Once the surgery is complete, your healthcare team will work with you to find the right dosing and timing of medication for your unique Parkinson's.

We sat down with **Eric Tse**, Registered Nurse with the Movement Disorder Clinic in Calgary and Duodopa Specialist to get some answers to frequently asked questions about Duodopa.

Q: How will Duodopa help?

A: The Duodopa pump will help manage the motor



symptoms that are improved by oral Levodopa Carbidopa, but often individuals find the pump can help more to improve the symptoms as the brain's tolerance for dopamine changes. There are select symptoms that might not be affected, which are the same symptoms the oral medication won't help either. The Duodopa pump often allows for symptom relief to be more predictable, which makes it easier to manage with daily living. The primary benefit of Duodopa is the automated delivery of the medication to manage Parkinson's.

Q: What is the cost? Is there coverage?

A: The cost is around $60,000 per year, however there is coverage through Alberta Blue Cross with Special Authorization to cover the cost of the medication, the supplies, and training for how to use the pump.

Q: What are the side effects? Do they differ from oral Levodopa?

A: The side effects of Duodopa are similar to those of oral Levodopa medications. When Duodopa use is prolonged, individuals may experience a decrease in Vitamin B levels, which can lead to risk of peri-neuropathy. However, this can be managed with the use of supplements and support from your healthcare team. There are side effects associated with the tubes, including chaffing or skin infections, which can be managed with antibiotics. There is the potential risk of small bowl obstruction if the tube becomes tangled or clogged, which is why it is often recommended to avoid stringy vegetables in your diet. Finally, there is the rare and misunderstood symptom of weight loss.

Q: What are the risks of surgery?

A: The risks for the Duodopa surgery are similar to any surgery, meaning there is always the risk of infection. However, the surgeons are very similar with the surgery and EPG tube surgeries are very common. There is a risk of bleeding and air or fluid inside the stomach. The details of the surgery and potential risks are discussed with the surgeon prior to the surgery. The risks are associated with the initial surgery and follow-up surgeries every 1-2 years to replace the tubes.

Q: Are there any restrictions to using Duodopa?

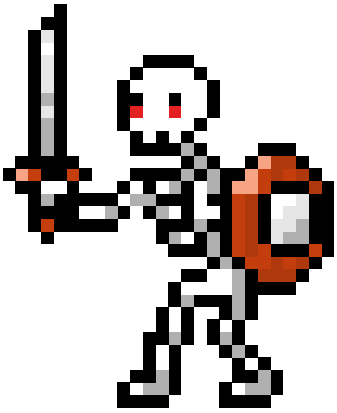
A: The only current restrictions are the inability to manage the pump and care. The onset of cognitive symptoms, such as dementia, psychosis, or hallucinations may restrict an individual from Duodopa. It is best to connect with your healthcare team to discuss if you're an eligible candidate

Q: Are there any activities that should be avoided with Duodopa?

A: Yes, the pump is not waterproof and cannot be submerged, which means activities that could cause the tube to get wet or tangled should be avoided. If you're interested in completing an activity, such as swimming, it is best to complete in the morning before the pump has been connected or in the evening once disconnect and supplement with oral medication during this time.

Q: Can I travel with Duodopa?

A: Yes, you can! There is a travel checklist, preparation tips, and supplies available through the AbbVie Cares program.



Q: Is there limitation on how long you can have Duodopa?

A: No, there are no restrictions on how long you can use Duodopa. However, if you experience irritation or stomach discomfort from the tube or the pills are providing the same relief, your healthcare team may recommend switching back to oral medication only. Duodopa surgery is reversible and can be removed if needed. Additionally, if an individual is diagnosed with dementia with progression to the point of being unable to safely manage the pump, it may be recommended to switch back to oral medication.

Q: Where are the surgeries completed in Alberta?

A: The surgeries are completed in Calgary and Edmonton at the Movement Disorders Clinics.

Thank you, Eric, for sharing your knowledge and expertise with us! If you have more questions about Duodopa, eligibility, or interested in completing a trial (tubing inserted through the nose) please consult with your healthcare team.

References:

Tse, E. (2016). https://cumming.ucalgary.ca/sites/default/files/teams/122/programs/MD_DUODOPA%20info%20-%20MDC%20website%20v2.pdf