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# Neurology, Gastroenterology, Radiology, Parkinson's Partnership

Initiative Type

Model of Care

Status

Deliver

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14 December 2018

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13 June 2019

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<https://test.clinicalexcellence.qld.gov.au/improvement-exchange/neurology-gastroenterology-radiology-parkinsons-partnership>

## Summary

The Townsville Hospital (TTH) neurology, gastroenterology, and radiology specialists have collaborated to pioneer levodopa carbidopa intestinal gel (levodopa) via percutaneous endoscopic

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gastrostomy (PEG) as a treatment pathway for patients with late-stage Parkinson's disease. TTH is the first non-metropolitan hospital in Australia to offer this treatment; it is also currently the largest centre for levodopa infusion outside Sydney. In established Parkinson's neurologists use oral levodopa, a chemical building-block that replaces the dopamine lost in Parkinson's patients resulting in the involuntary shaking that characterises the disease. As Parkinson's progresses, the brain needs more levodopa as its effect becomes increasingly shorter. Levodopa infusion involves the endoscopist making a hole in the abdomen to insert a tube and threading a small catheter through the stomach into the jejunum to continually infuse the levodopa at a steady rate. Infusion of levodopa through the bloodstream significantly reduces the severe involuntary movements of advanced disease including stiffness, shaking, and 'freezing' (patient is stuck to the spot). This minimally invasive treatment is optimal for patients for whom deep brain stimulation, including patients who are elderly, vulnerable, or have dementia, is not a possibility.

## Key dates

Jan 2017

Jan 2019

## Implementation sites

Townsville Hospital and Health Service

## Key Contacts

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## **Aim**

Provide equity of access to a treatment pathway for a vulnerable patient group who live in regional and remote parts of the state.

## **Benefits**

- Improved quality of life and exposure to risk.
- Keeps patients close to home, family and loved ones.

## **Background**

Parkinson's disease is the world's second-leading neurodegenerative disease after Alzheimer's dementia. The prevalence of the disease is 48-69 per 1,000 persons per year, with an average onset age of 60. People living in regional areas in Queensland have a disproportionately higher incidence of disease than people living in metropolitan areas. They have also, historically, had less access to contemporary treatment options.

## **Solutions Implemented**

Levodopa via PEG is an innovative and proven therapy that vastly improves the quality of life for patients with late-stage Parkinson's, patients for whom conventional oral levodopa therapy is no longer effective and for whom DBS is either clinically unsuitable or cost-prohibitive. The procedure is extremely effective in managing the severe motor fluctuations of patients with advanced disease because it ensures a steady blood level of the medication.

## **Evaluation and Results**

Until its introduction to The Townsville Hospital, levodopa via PEG was not an option for people with late-stage Parkinson's disease living outside Queensland's south-east corner. Correspondingly,

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people living in regional areas have a statistically higher prevalence of the disease. Levodopa via PEG is a significant clinical practice success story which provides equity of access to a life-changing treatment for people living with one of the world's most challenging and prevalent diseases of the nervous system. This procedure addresses and remedies equity of access for people with late-stage Parkinson's in regional Queensland and eliminates the need for extensive, discomforting, stressful and inconvenient travel to Brisbane. The Townsville Hospital has seen staggering clinical success with intestinal gel levodopa infusion which has vastly improved patients' quality of life, exposing them to less risk, and keeping them close to home, family and loved ones. The collaboration has delivered levodopa gel therapy to more than 40 patients and have participated in multi-centre study into the assessment of late Parkinson's disease.

## **Lessons Learnt**

Levodopa via PEG is a collaboration of specialties to support the delivery of clinical care that helps regional Queenslanders control the debilitating effects of a major neurodegenerative disease and restore quality of life.

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