The levodopa challenge

This leaflet provides information about the levodopa challenge and what you can expect when you come to hospital. If you have any further questions, please contact your Parkinson’s nurse specialist.

What is a levodopa challenge?
The levodopa challenge is a way of testing for responsiveness to the drug levodopa, which is used in the treatment of Parkinson’s disease. The test involves completing an assessment of your movement, rigidity, balance and walking during your ‘off’ phase (without medication) and your ‘on’ phase (with medication). It uses a measurement tool called the Unified Parkinson’s Disease Rating Scale (UPDRS) to assess the effect of the drug.

Why should I have a levodopa challenge?
The levodopa challenge is part of the assessment to consider your suitability for deep brain stimulation (DBS) to treat your Parkinson’s disease. It looks at how well your symptoms respond to levodopa. Having a good response to levodopa is important when considering how much DBS will benefit your Parkinson’s symptoms.

How can I prepare for a levodopa challenge?
The Parkinson’s nurse specialist will speak with you about temporarily stopping your Parkinson’s medication prior to the day of your challenge. Details relating to which medications you need to stop and when you need to stop taking them will depend on which Parkinson’s medications you take. Please follow your nurse’s instructions carefully.

As a guide:
- If you take levodopa (Sinemet®, Madopar®, Stalevo® or Duodopa®) and a dopamine agonist (ropinirole, pramipexole or rotigotine), you will be advised to temporarily stop taking these on the morning of your assessment (at least six hours prior your appointment).
- If you are using an apomorphine pump, it can be switched off one hour before the challenge.
- Other medications, such as amantadine, entacapone, selegiline, and rasagiline should not be taken on the morning of your assessment.

If you think you may find it difficult to stop taking your medications, please discuss this further with the Parkinson’s nurse specialist. You should continue taking any non-Parkinson’s medications that you usually take.

On the morning of the test, please eat no more than a light breakfast – this is to assist with the absorption of the medication.

Are there any risks?
Temporarily stopping your Parkinson’s disease treatment will lead to a short return of your symptoms (slowness, rigidity and tremor). However, you will be assessed promptly so that the amount of time spent off medication is limited. There are no long-term risks associated with the levodopa challenge.
Asking for your consent

It is important that you feel involved in decisions surrounding your care. You will be asked to formally agree to the levodopa challenge. You can withdraw your agreement at any time, even if you have said ‘yes’ previously. If you would like more details about our consent process, please ask your nurse specialist.

Please note that your assessment will be video-recorded and this recording will form a part of your clinical record. We will ask for your written consent before doing this.

What happens during a levodopa challenge?

The Parkinson’s nurse will first assess you during your ‘off’ phase (without medication). This will involve a series of movements and an assessment of your rigidity, walking and balance. We understand that some of the assessment may be difficult for you without your Parkinson’s medication(s) however, this is a key aspect of the assessment. This first stage of the assessment will take no longer than 20 minutes.

After the first assessment, you will be given dispersible (soluble) Madopar®, otherwise known as co-beneldopa 50/200mg. Sinemet® (also known as co-careldopa 50/200mg) can be given as an alternative if you have had problems with Madopar® in the past. It may take up to an hour for the medication to work. Once the medication is working and you appear to be in your ‘on’ phase, the assessment will be repeated.

You will be asked to complete a number of written questionnaires during the assessment. The Parkinson’s nurse specialist will discuss this with you and will assist you with these on the day.

What happens with my Parkinson’s medication after the levodopa challenge?

Please bring your Parkinson’s medication with you to restart following your assessment. For a short period of time after the assessment, you may experience more Parkinson's disease symptoms (slowness, rigidity, and tremor), however these should settle within 24 hours.

Will I have a follow-up appointment?

The results of the assessment will be discussed with you on the day and forwarded to the team at The National Hospital for Neurology and Neurosurgery, where you will be seen for further discussion regarding your suitability for DBS.

You will continue to be seen by your usual neurologist and Parkinson’s nurse specialist.

Contact us

If you have any questions or concerns about the levodopa challenge, please contact your Parkinson’s nurse specialist on 020 8725 2141 (9am to 5pm, Monday to Friday). You can also call the Parkinson’s UK helpline on 0808 800 0303.

Additional services

Patient Advice and Liaison Service (PALS)

PALS can offer you on-the-spot advice and information when you have comments or concerns about our services or the care you have received. You can visit the PALS office between 9am and 5pm, Monday to Friday in the main corridor between Grosvenor and Lanesborough Wing (near the lift foyer).

Tel: 020 8725 2453  Email: pals@stgeorges.nhs.uk