York and Scarborough Teaching Hospitals
NHS Foundation Trust

Your VEP and ERG appointments

(Visual Evoked Potential and Electroretinogram)

Information for patients, relatives and carers

For more information, please contact:
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What is a Visual Evoked Potential?

Your eye produces tiny electrical signals which are passed along the optic nerve to the brain to provide visual information. A Visual Evoked Potential (VEP) tests this optic nerve pathway by stimulating your vision with a checkerboard pattern.

Just before the test, your vision will be checked by asking you to read an eye chart. **Please bring all your glasses with you.**

Your head will then be measured, and five small discs (electrodes) will be attached to your scalp using a special paste that will wash out after.

Each eye is tested separately so a patch will be used to cover the other eye.

You will be asked to focus on the centre of a screen where black and white squares move from side to side. We may also show you a flashing light.

All responses are recorded onto a machine in the form of a graph.

What is a Pattern Electroretinogram?

The Pattern Electroretinogram (PERG) measures the function of the macular (the part of the retina responsible for your central vision). The small electrical signals will be recorded by stimulating your vision with a checkerboard pattern.

Small discs (electrodes) will be attached to the sides of both eyes using a special paste and medical tape.

A fine thread will be placed along your lower eyelid, so it rests against your eye. You will not be able to see the thread when in position and it does not affect your vision.

You will be asked to focus on the centre of a screen where black and white squares move from side to side, and a recording of the response is made.

All responses are recorded onto a machine in the form of a graph.

What is a full field Electroretinogram?

The full field Electroretinogram (ERG) measures the response from the retina when it converts light into electrical signals. This response is recorded by stimulating your vision with different flashes of light.

It is necessary to put drops in your eyes to dilate your pupils (make them large) as well as some anaesthetic drops to numb the surface of your eye.

We record the responses by using the same electrodes as for the PERG.

The lights will be turned off, and you will sit in the dark for 20 minutes after which flashes of light will be used to stimulate your vision.

You will then sit in the light for 10 minutes before being shown further flashes/flickering lights once your eyes have re-adjusted.

All responses are recorded onto a machine in the form of a graph.

How do I prepare for the test?

Please allow up to two hours for the tests; they are performed one after the other.

Please bring all prescription glasses with you. If you wear contact lenses remove them prior to the appointment.

Your hair needs to be clean. Do not apply any hair products such as gel, spray, mousse.

There is no need to stop taking any medication unless told to do so by your doctor. Please bring a list of your medication with you.

We would advise you to bring a pair of sunglasses with you as the drops can make your eyes more sensitive to light.

Please tell us if you have ever had an allergic reaction to any eye drops.

Please let us know of any allergies such as sticking plaster or micropore tape.

If you wear makeup this should be removed from around your eyes before you attend.

Please let us know if you have Glaucoma.

What are the benefits of the VEP and ERG?

This information along with other test results can help to identify a possible diagnosis, monitor the progression or guide treatment plans.

What are the risks/side effects of VEP and ERG?

These procedures are generally painless and very safe.

Mild irritation of the skin can occur after skin preparation prior to electrode application.

On rare occasions flashing lights can trigger seizures in people with photosensitive epilepsy. Unsafe flash rates are therefore avoided.

Eye drops can cause initial stinging of the eyes which soon wears off.

Dilation drops can cause allergic reactions in extreme cases.

Can I drive after the tests?

The dilation drops can blur your vision and make your eyes more sensitive to light. **You will not be able to drive or operate machinery for several hours after.**

What happens once the test is finished?

When the test is finished the small discs and fine thread will be removed. Small traces of paste may remain in your hair but will come out easily with washing.

The results will be analysed and interpreted by the consultant clinical neurophysiologist. A written report will be sent to the doctor who referred you for the test. The physiologist will not be able to tell you the results of the test.

What should I do if I cannot attend this appointment?

- If you are unable to attend, please let us know as soon as possible so that the appointment can be offered to another patient.
- A new appointment can be arranged for you at a mutually convenient date and time.
- If you no longer require this test, please let us know so that we can remove your name from the waiting list.

If you have any queries or concerns regarding the test, then please contact the department.

Telephone us on 01904 725665.
We are open Monday to Friday, from 8:30am to 4pm.
For more information, visit our website:
www.yorkhospitals.nhs.uk

Tell us what you think of this leaflet

We hope that you found this leaflet helpful. If you would like to tell us what you think, please contact: Clinical Neurophysiology, York Hospital, Wigginton Road, York, YO31 8HE or telephone 01904 725667.

Teaching, training and research

Our Trust is committed to teaching, training and research to support the development of health and healthcare in our community. Healthcare students may observe consultations for this purpose. You can opt out if you do not want students to observe. We may also ask you if you would like to be involved in our research.

Patient Advice and Liaison Service (PALS)

PALS offers impartial advice and assistance to patients, their relatives, friends and carers. We can listen to feedback (positive or negative), answer questions and help resolve any concerns about Trust services.

PALS can be contacted on 01904 726262, or email yhs-tr.patientexperienceteam@nhs.net.

An answer phone is available out of hours.

Leaflets in alternative languages or formats

If you would like this information in a different format, including braille or easy read, or translated into a different language, please speak to a member of staff in the ward or department providing your care.

Patient Information Leaflets can be accessed via the Trust's Patient Information Leaflet website: www.yorkhospitals.nhs.uk/your-visit/patient-information-leaflets/

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