

Visual Electrophysiology Service (VES): Information for volunteers

Department of Medical Physics

Produced: March 2025

Review: March 2028

Leaflet number: 1597 Version: 2

Who are we?

The visual electrophysiology service (VES) is part of the Department of Medical Physics. We measure the tiny electrical signals that your eyes send to your brain. This lets eye doctors know which part of the eye is not working properly when there is a problem.

Why are we recruiting?

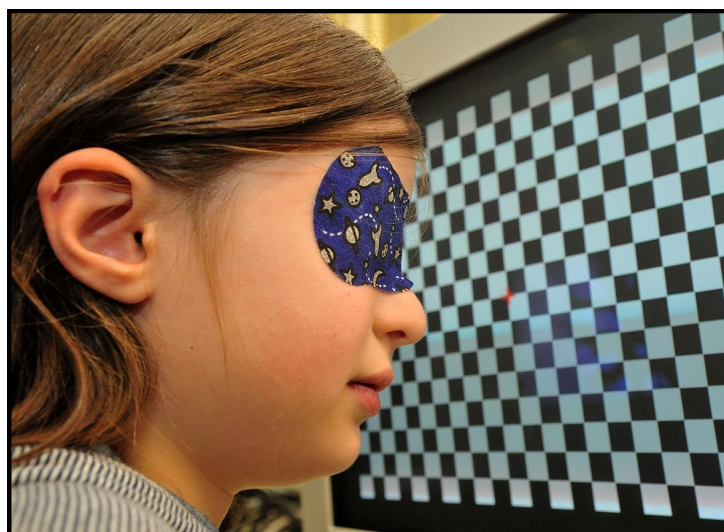
We are looking for volunteers who have healthy vision** to help with the setup of some test equipment.

To make sure our equipment is working properly, we need a set of results from healthy people to use to compare when we test our patients.

This is where you come in! Your data let us make this set of results. This is what we call our “normative range”. This will help with:

- Understanding how the visual system works
- Diagnose specific visual conditions
- Monitor the effectiveness of treatments

Any data collected from you will be treated anonymously.



Picture 1: The pattern we will ask you to look at during pattern electroretinogram

**Health information and support is available at www.nhs.uk
or call 111 for non-emergency medical advice**

Visit www.leicestershospitals.nhs.uk for maps and information about visiting Leicester’s Hospitals
To give feedback about this information sheet, contact InformationForPatients@uhl-tr.nhs.uk

'Normal' vision does change slightly with age. For this reason, we want to recruit volunteers between the ages of 18 and 60 years of age.

People who wear glasses or contact lenses can still be accepted. It will depend on your prescription. If you know your prescription please bring it with you.

What is the first step in becoming a volunteer?

We will talk to you about the tests to make sure that you are aware of what you would need to do. We will answer any questions that you may have.

If you choose to continue, we will ask you to

- sign a consent form
- arrange a time to suit us both when testing can be done.

You can withdraw from testing at any stage if you want to.

What happens during a VES test?

Part 1:

To make sure your vision can be considered 'normal' for our purposes, we will do the following checks:

- A history to look for factors known to affect vision (for example, earlier eye surgery etc).
- Measure visual acuity/sensitivity (for example, the reading of letters of various sizes).
- A check of colour vision (for example, looking for numbers/patterns in a pattern of coloured dots).
- After these tests, you may need your eyes looked at by an eye doctor, to make sure that your eyes are healthy. For example, your vision may not be what we would expect from a healthy eye, or your results of our tests are not similar to the rest of the participants. If this happens, we will get your GP details from you and write to them. They will then be able to arrange further tests for you. We would always ask for your permission first before doing this.

Part 2:

If you are suitable (from part 1 checks above), you will be asked to take part in 1 or more of the following tests (see p3). You are free to volunteer for as few or many of the tests as you wish. They can be booked over 1 or more sessions to fit with your situation.

How do I prepare for the appointment?

- If you normally wear glasses to read or for everyday use please bring them with you.
- If you wear contact lenses you may need to take them out for some tests. If we use eye drops for your tests, you may not be able to put them back in for a few hours.

- If you have a copy of your glasses prescription, please bring it with you.
- Please make sure your hair is clean and that you have not used any greasy/oily styling products.
- Please do not wear make-up on your face, or moisturiser or facial oils, on the day.

	Test name	Time it takes	What's involved
1	Flash electroretinogram (ERG):	About 45 mins	This tests the retina at the back of the eye. We put 3 stickers on your face, and a very thin thread (thinner than a hair) across the front of your eye. See picture 3 for how it looks. You will then be asked to look at some quick, white flashing lights in the dark, and then in the light.
2	Pattern electroretinogram (PERG):	About 30 mins	This measures the responses from the very central part of your retina (the macula). This test is done the same way as the ERG test, but you will be in the light looking at a pattern on a screen.
3	Multifocal electroretinogram (mfERG):	About 45 mins to 1.5 hours	This test makes a map of how well each part of your retina is working. It is done in the same way as the PERG test but with a
4	(s-cone) electroretinogram	About 5 mins added	This test is the same as the ERG test but with a blue flash on a white background
5	(on- off) electroretinogram	About 5 mins added	This is the same as the ERG test but the flashes last for longer
6	Dark adaptometry (DA):	About 1 hour	This test shows us how well your eyes adjust to the dark. We do not need to apply any sensors/ stickers for this test. Instead you will be given a button to press every time a dim green or red light flashes in the dark.

Having eye drops during your test

- For all of the tests (apart from test 2), you will need to have eye drops. These make the black part of your eye (pupil) larger (dilate) so it can let in lots of light. This can make your eyesight blurred. This can last up to 6 to 8 hours. Please do not drive until this has worn off. You may also wish to bring sunglasses as it can seem bright for some time after the test.
- When we use the thin thread (in tests 1 to 5) it can feel a bit like a hair in your eye at first. But we can take away the feeling of something in the eye with a topical anaesthetic if you wish. If we use this, we will ask you not to rub/touch your eyes for up to about 1 hour. This is to stop you from scratching your eyes by accident.

- Please tell us on the day (or by phone before your appointment) if you may be allergic to any eye drops, if you have ever had a bad reaction to eye drops, or if you may be pregnant.
- If you wear contact lenses, you may not be able to put them back in for a few hours after your test.



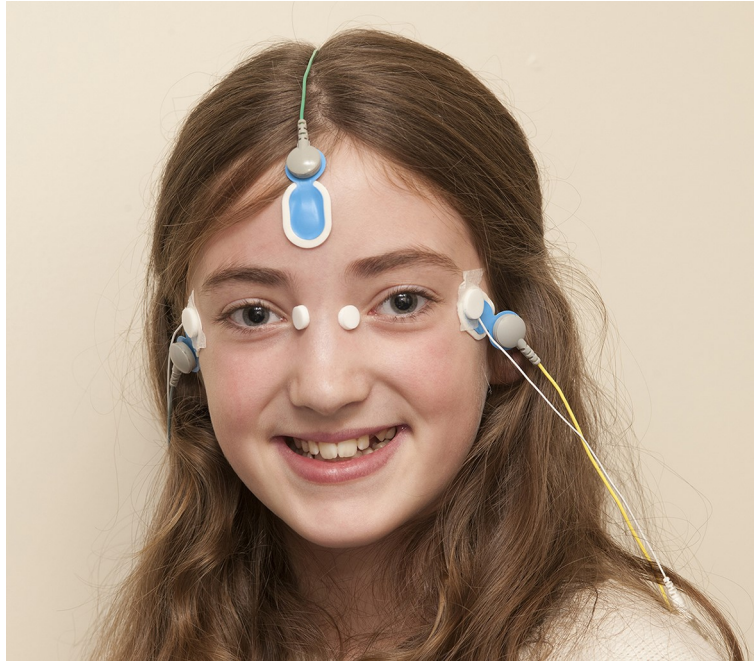
Picture 2: Looking at flashes of light for a flash ERG (see test 1 on the previous page). You can also see some of the stickers we put around your eyes in this picture.

Do you have any of the following conditions?

Please have a look at the list of conditions below. If none of these apply to you then you can contact us to arrange time to meet to see if you can be a volunteer.

Multiple sclerosis (MS)	Diabetic retinopathy
Macular damage (such as Toxoplasmosis, bleeds)	Optic neuritis
Optic neuropathy (such as Friedreich's ataxia)	Vitamin B12 deficiency
Amblyopia ("lazy eye")	Neurosyphilis
Colour vision abnormalities	Optic disc hypoplasia
Neurological conditions	Papilloedema
Any condition affecting the retina of the eye	Optic nerve coloboma
Macular degeneration	Glaucoma
Thyroid eye disease	Any previous eye surgery

If you are unsure about any of these conditions, or if you have an eye condition that is not on this list, and you are still interested in taking part as a volunteer then please feel free to contact us for advice (see contact details at the end).



Picture 3: Stickers used to carry out tests 1 to 5

Thank you for reading our leaflet! We hope you will think about volunteering for our tests. To volunteer or to ask any further questions, please contact us using the phone number, email or postal address below.

Contact details

Visual Electrophysiology Service, Department of Medical Physics, Level 1, Sandringham Building, Leicester Royal Infirmary

Email: EDS.Ophthalmology@uhl-tr.nhs.uk

Phone: 0116 258 5685

اگر آپ کو یہ معلومات کسی اور زبان میں درکار ہیں، تو براہ کرم مندرجہ ذیل نمبر پر ٹیلی فون کریں۔
على هذه المعلومات بلغةٍ أخرى، الرجاء الاتصال على رقم الهاتف الذي يظهر في الأسفل

જો તમને અન્ય ભાષામાં આ માહિતી જોઈતી હોય, તો નીચે આપેલ નંબર પર કૃપા કરી ટેલિફોન કરો

ਜੇ ਤੁਸੀਂ ਇਹ ਜਾਣਕਾਰੀ ਕਿਸੇ ਹੋਰ ਭਾਸ਼ਾ ਵਿਚ ਚਾਹੁੰਦੇ ਹੋ, ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਹੇਠਾਂ ਦਿੱਤੇ ਗਏ ਨੰਬਰ 'ਤੇ ਟੈਲੀਫੋਨ ਕਰੋ।

Aby uzyskać informacje w innym języku, proszę zadzwonić pod podany niżej numer telefonu

Previous reference:

If you would like this information in another language or format such as EasyRead or Braille, please telephone 0116 250 2959 or email equality@uhl-tr.nhs.uk