

Eye Unit

Visually Evoked Potential (VEP) and Electroretinogram (ERG)

Your questions answered

What is VEP and ERG?

Sometimes it can be difficult to find out how much babies and young infants can see. The VEP (Visually Evoked Potential) and ERG (Electroretinogram) are two tests that, can give us clues as to how well the pathway from the eyes to the brain is working. When a light flashes or a pattern moves or suddenly appears, an electrical response can be detected using electrodes placed on the back of the head for the VEP and on the cheeks just under each eye for the ERG.

How do these tests relate to seeing?

The tests are used to find out if a part of the pathway from the eye to the brain is not working correctly. They can also give an estimate of the ability your child has to see changing patterns. However, the tests cannot tell us how well your child uses the visual information reaching their brain.

Why are the tests necessary?

The VEP and ERG are especially useful in babies, young infants and children who cannot tell us or show us how much they can see. They are also very helpful if your doctor cannot find an obvious reason why a child sees poorly.

Are there any risks?

The tests are carried out in an Outpatient Clinic and there are no known risks.



Will the test hurt?

No. Occasionally a child can find the test irritating but no more so than having their hair brushed or wearing a hat. We will do our best to distract your child with videos and toys and they can eat and drink during the test. Your support and co-operation is very important and can help enormously in carrying out the test quickly.

What will happen to my child?

Before putting the electrodes on:

- We wipe small areas of the scalp and cheeks with a cotton wool bud covered with a slightly gritty gel. This improves contact with the skin and helps us to detect good signals;
- Electrodes are placed on the scalp with a cream and sticker electrodes are placed on the cheeks just under each eye;
- A stretchy headband is placed around your child's head to keep everything in place.

The electrodes are easily removed at the end of the test, which usually takes about 20-30 minutes.

What happens next? The television test

Young children sit on their parent's lap in front of a television. Older children can sit on their own and parents can stay in the room if they wish. The room lights are dimmed then a black and white checked pattern is moved from side to side on the television screen. First of all both eyes are tested together and then if possible one at a time. We ask the parent to cuddle their child and gently hold their arms to prevent the electrodes being pulled off. We will stay in the room with you throughout the test. The recorded VEPs and ERGs, which look like wiggly lines, are saved on a computer.

What happens next? The Flash test

After the television test, a lamp is held in front of your child's eyes. This flashes three times every second which is a rate that will not bring on an epileptic fit. The test will work even if a baby is asleep. If your child is asleep or co-operation is very limited we may only perform this part of the test.

Patient Information

How do the electrodes come off?

We will gently remove the electrodes and clean the area with warm water and cotton wool. If any cream is left over it will come off completely after a hair wash.

When do we get the results?

Once your child has been assessed a report will be sent to your consultant.

You will then be sent an appointment to discuss the results.

The Trust has access to interpreting and translation services. If you need this information in another language or format please contact us on 024 7696 6520 and we will do our best to meet your needs.

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