





# Ophthalmic Tests

## Orthoptic Tests

### 1. Visual Acuity (clarity of vision)

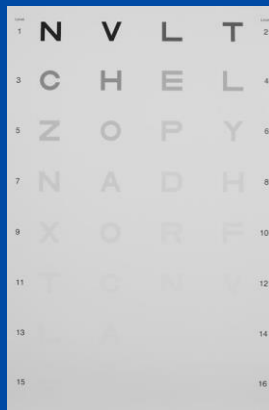
The tests described in the table below only assess your child's central vision i.e. how clearly your child can see. If your child's vision is reduced on these tests it may indicate your child needs glasses but these tests do not tell us what strength of glasses may be needed.

Vision test name	Age test can be used	Description	
Forced Choice Preferential looking cards	0-1years	Does not require any speech. Requires the child to look towards the striped circle	
Cardiff Acuity Cards	1-2 years	Does not require any speech and simply requires the child to look towards picture	
Kay's Pictures	3-4 years	Requires child to name or match the picture	
Log MAR letter test	5 years onwards	Requires child to name or match the letter	

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### 2. Contrast sensitivity

Contrast is determined by the difference in the colour and brightness of the object and other objects within the same field of view. The test used is the Pelli- Robson Contrast Sensitivity chart and is performed on children who are able to name/recognise letters



### 3. Visual field testing

Can be performed using a Humphrey field analyser or Goldman perimeter. Children often find the Goldman test easier to perform than the Humphrey test as the Goldman test is manually operated and can be done at a slower speed. These tests do not tell us how clear a child's vision is or if the child needs glasses. They do tell us the area in which objects can be seen in the side (peripheral) vision as your child focuses their eyes on a central point.

Depending on your child's ability, these tests can be performed on ages 8 years above.



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### 4. Colour vision

The ability to perceive or differentiate between colours.

We can assess colour vision in children who are able to recognise shapes or numbers. The tests include Ishihara colour vision book which requires your child to identify numbers. The city colour vision book which requires your child to be able to match colours and recognise odd colour out. The colour Dx which requires your child to be able to recognise pictures and/or shapes.



### Retinal Imaging

**Electroretinogram** - This measures the activity of the light detecting nerve cells in the retina. Little stickers are placed around the eyes to pick up this activity. The ERG detects activity of nerve cells that work in both day (cones) and night (rods).

After having dilating drops, the test involves putting these stickers on the face and then looking at flashing lights. In order for the night time nerve cells to start working dark adapting has to take place. This means sitting in the dark for 20 minutes. After this these nerve cells can be tested with more flashing lights.

It can be done on all ages as the protocol is modified for babies and infants. It depends on the doctors how frequently the test is carried out.

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**Fundus autofluorescence (FAF)** - Is a specialised camera that specifically monitors natural autofluorescence (absorbed light) in specific parts of the retina. High levels of autofluorescence may indicate degenerative change or injury, whilst low levels may indicate missing or non-functional retinal.

**Optical coherence tomography (OCT)** - The aim of the OCT is to capture micrometer resolution, three-dimensional images of both the front and back of the eye. OCT enables the examiner to assess the different layers of the retina and to measure the overall thickness of the retina. This is important when determining or monitoring the extent of photoreceptor degeneration.