

## **Glossary** The meaning of words used in vision reports

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| Accommodation    | Automatic adjustment to the shape of the lenses of both eyes in order to keep objects in focus as the viewing distance changes.  |
| Achromotopsia    | Lack of colour vision.   |
| Agnosia (visual) | Decreased or absent ability to visually recognise or identify shapes, objects, or people. Various prefixes are used with this to describe the type eg simultanagnosia – difficulty in picking out individual items from a background scene. (See individual entries )  |
| Akinetopsia      | A rare condition in which an individual can only see things when they are still but not see them when they are moving.   |
| Amblyopia        | Also known as “lazy eye”, Reduced vision in one or both eyes which is often caused by a squint or uncorrected refractive error ( when it has not been corrected by glasses ), resulting in the brain getting a blurred picture. It can also be caused by the picture not reaching the back of the eye due to cataract or a drooping eyelid. The brain then ‘switches off ’ the visual signal from the poorer eye or does not develop the ability to see a clear picture. |
| Aniridia         | A condition where the iris (coloured part or the eye surrounding the pupil) does not form.   |
| Anophthalmia     | A condition where there is absence of one or both eyeballs.  |
| Anisometropia    | A significant difference in refraction between the two eyes – one eye is more or less long or short-sighted than the other resulting in a large difference in the strength of glasses between the two eyes.  |
| Aphakia          | There is no lens within the eye, this may have been removed or not have developed.   |

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| Astigmatism                      | A type of refractive error that focuses light at different points on the retina rather than a single point, and results in blurred vision at all distances. The cornea ( clear window at the front of the eye) is not round, twisting or blurring the picture . This is often described as a rugby ball shape. |
| Balint's syndrome                | A condition identified in adults due to damage within a specific area of the brain ,affecting eye movement, the ability to see several things at once and coordination of vision and movement together. Similar features have been described in children born with brain abnormalities.                        |
| Bifocal lens                     | A spectacle lens with two separate and distinct areas. . The top section is used for distance viewing, and the lower section for near viewing.   |
| Bilateral                        | Affecting both sides.  |
| Binocular                        | Using both eyes together.  |
| Blindsight                       | The awareness of moving targets and sometimes shape, in a person who otherwise is unable to see. This is a type of reflex or subconscious vision.  |
| Braille                          | A tactile form of writing and reading consisting of raised dots.   |
| Cataract                         | Thickening, cloudiness or yellowing of the lens of the eye.  |
| Central vision                   | The ability of the visual system to see in the middle of the visual field.   |
| Cerebral visual impairment (CVI) | Visual impairment due to damage or disorder of the brain , previously called cortical visual impairment ( this term is still used in the USA )   |
| Choroid                          | One of the layers lining the eye between the light-sensitive retina and the tough outer layer, the sclera.   |
| Ciliary muscles                  | Internal eye muscles which alter the shape of the lens.  |

**Closed circuit television (CCTV)** Also referred to as a video or electronic magnifier.

This is a device that enlarges text or other content using a camera and produces the image on a screen. The size colour and contrast can then be changed to suit the viewer. These can be fixed or movable, as well as hand-held, and are routinely used in school to aid children with low vision.

**Cognitive visual dysfunction** Reduced function of the brain related to damage to areas involved in higher visual processing such as visual memory, simultaneous perception and orientation. These are forms of cerebral visual impairment.

**Coloboma** A defect in the eye which results from the eye not fully coming together when forming a ball during early pregnancy. This leaves a gap in the eye where all layers are not present. Often a notch is seen in the iris , but if affecting the back of the eye it may not be seen unless the eye is examined.

**Color anomia** Inability to name colours due to neurological dysfunction.

**Comfort text size** The size of text that is able to be read without difficulty . This is usually significantly larger than the smallest that can be seen. ( threshold )

**Cone dysfunction** A defect affecting the light sensitive cone cells in the retina which detect colour and fine detail.

**Congenital** Existing at or before birth.

**Contralateral** On the opposite side of the body.

**Contrast sensitivity** The ability of the visual system to distinguish the difference between two things of the same colour and clarity but of different shade/ lightness.

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| Easy to see<br>black on<br>white | Difficult to<br>see black on<br>grey |
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| Convergence                          | The ability to turn the eyes inward to see an object as it comes closer.  |
| Concave                              | Curved inwards.   |
| Convex                               | Curved outwards.  |
| Contact lens                         | A thin plastic lens which sits on the surface of the eye and, like glasses, corrects refractive errors.   |
| Cortical Visual Impairment           | Now known as cerebral visual impairment.  |
| Cycloplegia / cycloplegic refraction | – The focusing mechanism of the eye is stopped from working temporarily using eye drops to allow accurate testing for glasses and to fully examine the back of the eye.                           |
| Delayed visual maturation            | A condition of unknown cause in which vision is slow to develop in babies and can last up to the age of 6 months.   |
| Detection vision                     | The ability to identify that something is there.  |
| Diplopia                             | Double vision.  |
| Dispensing Optician                  | A professional who is qualified to fit glasses and contact lenses.  |
| Dorsal stream                        | The pathway, between the occipital and posterior parietal lobes of the brain, involved in transferring and analysing information that maps the surroundings and coordinates vision with movement. |
| Dynamic retinoscopy                  | A technique used to measure refractive error, using light and movement, without the need for eye drops.   |
| Dyskinetopsia                        | A condition in which there is impaired perception of movement.  |
| Eccentric viewing                    | Looking slightly above, below, or to one side of an object in order to place it in the best position for viewing, used when the centre of the eye is not functioning well.                        |

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| Echolocation       | The use of sound and echoes to gain information about surroundings and guide one's movement through space.  |
| Electrophysiology. | A group of tests which measure visual function by picking up electrical signals from the eye or brain . These include visual evoked potentials ( VEPs ) and electroretinograms ( ERGs )<br><br>These can be seen in the VINCYP clinic videos. |
| Electroretinogram  | A test where the electrical response from the light sensitive cells in the retina is measured.  |
| Emmetropia         | No refractive error as the focusing mechanism of the eye is working well.   |
| Esotropia          | A condition in which one eye turns inwards, commonly known as a convergent squint.  |
| Exotropia          | A condition in which one eye turns outwards, commonly known as a divergent squint.  |
| Fixation           | The ability to maintain the eyes on a target.   |
| Fovea              | The small area in the centre of the retina where the cone cells, which give the most detailed picture, are most closely packed  |
| Frontal lobe       | The area of the brain at the front which is responsible for controlling emotions and behaviour, and executive functions: attention, planning , and decision–making.   |
| Functional vision  | The way in which a person uses their vision day to day.   |
| Fundus             | The area at the back of the eye seen through the pupil.   |
| Glaucoma           | A condition which can cause damage to the nerve at the back of the eye sometimes caused by raised pressure within the eyeball.  |
| Habilitation       | Training for children with visual impairment to develop skills to understand their environment , move around it safely ( mobility ) and to undertake daily living skills like dressing ( independent living skills ).                         |

**Habilitation Specialist** A qualified worker who assesses and teaches children with visual impairment to understand their environment , move around it safely ( mobility ) and to undertake daily living skills like dressing ( independent living skills ).

**Head tilt** The head is held at an angle, rather than straight. This often occurs when children have nystagmus when they are trying to see more clearly. Also known as compensatory head posture.

**Hemianopia** Lack of perception of one half of the visual field.



**Hemifield** One half of a visual field.

**Homonymous hemianopia** A visual field defect in which the same half the field of view is not seen in each eye.



**Hypermetropia** Long-, or far-sightedness. A type of refractive error that results in blurred images either because the eye is short or the lens is not strong enough to bring objects in to focus when close up .

**Hypertropia** An upward eye turn.

**Hypoplasia** Underdevelopment of a body part.

**Hypotropia** A downward eye turn.

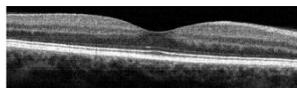
**Idiopathic** Cause unknown.

**Intraocular** Within the eye. Often used in 'intraocular lenses' when an artificial lens has been placed into the eye after removal of a cataract.

**Iris** The coloured part of the eye which surrounds and controls the size of the pupil.

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| Keratoconus            | A condition in which the cornea, at the front of the eye becomes thinner and bulges forward like a cone.   |
| Latent                 | Something that is not always seen, but hidden. Often used for nystagmus that only becomes visible when one eye is covered.   |
| Lens                   | The structure in the centre of the eye which changes shape to focus the image seen and make it clear.  |
| Macula                 | The central area of the retina which includes the fovea.   |
| Manifest               | Visible. Opposite of latent eg nystagmus which is visible all the time.  |
| Microphthalmos/ia      | The eye/s is/are small and under developed.  |
| Moon                   | A tactile form of writing which is based on the alphabet. It is simpler than Braille and is often used by those with learning disability by older people who have lost their sight.  |
| Myopia                 | Near sightedness or short sightedness. A type of refractive error that results in blurred images on the retina when viewing objects in the distance. This may be because the eye is too long or the lens is too strong to focus the image. |
| Movement Perception    | The ability to see things which are moving ( difficulty or absence of this is dyskinetopsia or akinetopsia ).  |
| Null point             | The position of the eyes in which the eye movement in nystagmus is least. Often accompanied by a compensatory head posture/ head tilt.   |
| Nystagmus              | Involuntary movement of the eyes, sometimes described as 'wobbly eyes'.  |
| Occlusion ( patching ) | Treatment involving the covering of one eye to improve the vision in the other.  |
| Occipital lobes        | Posterior (back) portion of the brain responsible for processing vision and sending visual information to other parts of the brain.  |

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| Ocular-motor dysfunction             | Impaired control of eye movements.  |
| Oculomotor apraxia                   | Limited ability to move the eyes from one target to another often resulting in thrusting head movements to change gaze direction ( also known as saccadic initiation failure ). |
| Ophthalmologist                      | A doctor who specialises in eye care .  |
| Optic ataxia                         | Impaired accuracy of movement of the limbs and body through visual space, because vision is poorly coordinated with movement.   |
| Optic disc                           | The area at the back of the eye where nerve fibres come together to form the optic nerve.   |
| Optic nerves                         | Nerves that transmit visual information from the retina to the brain.   |
| Optic atrophy                        | Damage to the optic nerve where there has been a loss of nerve cells giving the optic disc a pale appearance.   |
| Optic nerve hypoplasia               | Underdevelopment of the optic nerve.  |
| Optic Neuritis                       | Inflammation of the optic nerve.  |
| Optic radiations                     | Pathways within the brain carrying visual information to the occipital lobes.   |
| Optical Coherence Tomography ( OCT ) | A test which provides pictures of the microscopic internal structure of the eyes.   |

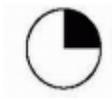


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| Optokinetic            | Related to eye movements.  |
| Optometrist            | A health care professional who specialises in the measurement of refractive errors and the health of the eye, prescribes glasses or contact lenses, and manages certain conditions of the eye.( Commonly known as an optician ). |
| Orientation perception | The brain function which allows people to know where they and other people/objects are, and relate these positions to each other.  |

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| Orthoptist                   | A specialist in the measurement of vision and management of disorders of eye movements as well as a range of other eye conditions.   |
| Paediatrician                | A doctor who specialises in the care of children.  |
| Papilloedema                 | Swelling of the optic nerves due to increased pressure within the skull.   |
| Parietal lobes               | The top part of the brain that processes language and puts together information from all senses – sight, touch hearing, smell etc. It also is involved in coordinating vision with movement .  |
| Perimetry                    | A method to measure the visual field.  |
| Perinatal                    | Around the time of birth.  |
| Peripheral visual field      | The area of vision at the edges of one’s gaze.   |
| Periventricular leukomalacia | A finding on a brain scan which indicates damage to a particular area of the brain. This can be associated with premature birth.   |
| Photophobia                  | Increased sensitivity to light.  |
| Preferential Looking Test    | This is a test of vision used in young children. It relies on the child always looking to the area of the card where there is something to see, rather than the area of the card where there is nothing. It measures detection vision. |



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| Prism                         | A lens which bends the light, often to allow images from each eye to line up and to avoid double vision.   |
| Progressive or varifocal lens | Similar to a bifocal lens in providing correction for distance and near vision in a single lens, but does so with a continuous, invisible change without a join in the lens. |

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| Prosopagnosia      | The inability to recognise faces due to reduced function within a particular area of the brain.   |
| Pseudophakia       | The natural lens of the eye is not present but there is an artificial lens ( implant ) present within the eye.  |
| Ptosis             | The upper eyelid droops down to cover the eyeball   |
| Pupil (of an eye)  | The hole in the centre of the iris that allows light to enter the eye.  |
| Pursuit movements  | The ability to smoothly follow objects across the field of vision.  |
| Quadrantanopia     | A defect in the visual field that affects one quarter of the visual field.  |
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| Recognition vision | The ability to distinguish and recognise a specific visual target from other similar stimuli; often measured using letter charts.   |
| Refraction         | The technique used to measure how light is focused within the eye ( this identifies the prescription needed for glasses ).  |
| Refractive error   | Focusing inaccuracy within the eye such that light rays do not come into clear focus on the retina, resulting in a blurred image. This is corrected with glasses or contact lenses. |
| Rehabilitation     | Training to improve skills or behaviours that have been lost or decreased due to disease or injury.   |
| Retina             | The inner nerve layer that lines the back of the eyeball. The retina reacts to light and transmits visual information by means of nerve impulses to the brain.                      |
| Retinal detachment | Parts, or the whole of the retina becomes separated from the back of the eye resulting in it being unable to function.  |

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| Retinal Dystrophies              | A large group of rare conditions in which the rod cells, cone cells or both within the retina do not function correctly resulting in reduced vision.  |
| Retinitis pigmentosa             | A specific type of progressive retinal dystrophy where both rod and cone cells are affected.  |
| Retinoblastoma                   | A rare tumour of the retina found in children.  |
| Retinopathy of prematurity (ROP) | A disorder of the retina related to abnormal vascular development associated with premature birth. It is screened for in premature babies and laser therapy can be used to treat it . Previously known as retrolental fibroplasia.  |
| Rod Dysfunction                  | A defect affecting the light sensitive rod cells in the retina which detect images throughout the visual field and function in low light.   |
| Saccadic eye movements           | Fast eye movements, switching the direction of gaze accurately, known as saccades.  |
| Sclera                           | The tough outer layer of the eye, seen at the front as the white of the eye.  |
| Scotoma                          | A blind spot or non-seeing area in the visual field.  |
| Simultanagnosia                  | The inability to take in information from a visual scene and process / be aware of the individual elements. This is often known as difficulty with simultaneous perception or visual crowding. This is due to reduced function within the areas of the brain known as the parietal lobes. |
| Stereopsis                       | The ability to judge depth by using both eyes together.   |
| Strabismus                       | A misalignment of the eyes such that they do not look in the same direction, commonly known as a squint.  |
| Syndrome                         | A group of signs, abnormalities or symptoms that occur together to form a recognisable pattern of disease or abnormality.   |
| Tactile defensiveness            | An aversion to touch due to oversensitivity, often seen in young children who are blind or have very low vision.  |

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| Temporal lobes        | The areas of brain under the temples which mainly deal with memory and recognition.   |
| Threshold vision      | The measure of the smallest thing that can be seen. This is what is tested in standard eye tests.   |
| Topographic agnosia . | Decreased or absent ability to map ones surroundings , to know where one is and work out routes.  |
| Tracking              | The ability to follow a moving object with ones eyes.   |
| Typoscope             | “Reading window” that helps reading by blocking out surrounding words and only showing a small number of words at a time to be read. Often helpful in simultaneous perception and concentration difficulties. |
| Unilateral            | Affecting one side of the body.   |
| Uvea                  | The parts of the eye which include the choroid, ciliary muscles and the iris. Inflammation of these if termed uveitis.  |
| Ventral stream        | The pathway between the occipital and temporal lobes of the brain transferring and analysing information relating to recognition/memory and spatial relationships ( where things are ).                       |
| Ventricles            | Fluid filled areas within the brain. These can become enlarged when the brain is damaged.   |
| Video magnifier       | see closed circuit TV.  |
| Visual acuity         | A measure of how clearly one can see. There are separate measures of this for distance and near vision. Measures are usually given as a decimal number eg 0.200 or similar to a fraction eg 6/6.              |
| Visual attention      | The ability to pay attention to, and maintain attention on objects. This also involves the ability to divide ones attention between several things.   |
| Visual closure        | The ability to work out what an object is when only part of it is seen.   |

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| Visual evoked potential (VEP). | A test which records the electrical activity reaching the back of the brain, when light or patterns are shown. ( this can be seen in the VINCYP clinic videos ). |
| Visual field                   | Area of space visible to the eyes when looking straight ahead.   |
| Visual impairment              | A uncorrectable reduction in visual function, meeting the criteria as stated on the VINCYP website, lasting a period of 6 months or more.                        |
| Visual latency                 | The time taken to receive and process incoming visual information in the brain, often referred to as visual processing speed.                                    |
| Visual memory                  | The ability to remember a visual image after seeing it.  |
| Visual neglect                 | Inattention to an area, usually one side, of visual space.   |
| Visual pathway                 | The path that light and visual signals travel through from the eye to the visual areas of the brain.   |
| Visual perception              | The ability to interpret, understand and organise information sent from the eyes to the brain.   |
| Visual processing              | The way in which the brain manages information sent from the eyes. There are two main types: basic or lower processing, and higher processing.                   |
| Visual recognition             | The ability to recognise and identify objects, faces, shapes and colours, as well as their pictures and images.  |
| Visual-spatial perception      | The ability to understand the relationship between things , eg how close they are, whether they are beside, in front or behind each other .                      |
| Visually guided movement       | The ability to coordinate movement with what is seen eg visually directed reach is used when one reaches out to pick up an object that you see.                  |

**Reviewed: June 2018.**