

Common sight loss conditions

The five most common eye conditions in the adult population that we support are age related macular degeneration (AMD), retinitis pigmentosa (RP), glaucoma, diabetic retinopathy and cataracts.

Before exploring more, it is helpful to understand some of the basics around how vision works. Vision impairments result from conditions ranging from the presence of some usable vision (low vision) to the absence of any vision (total blindness). Lots of us have mild vision impairments, but for most of us this will not become severe enough for us to fit any of these categories.

- Low vision: describes a person with a vision impairment that cannot be improved by correction but has some usable vision remaining.
- Legal blindness: defined as 20/200 or less in the better eye with the best possible correction.
- Many people with sight loss have some residual vision. This can sometimes confuse the public as they will meet a guide dog owner who appears to be able to see.
- Many people with sight loss will have more than one vision impairment. The severity of each condition differs between people.
- Around 50% of children and young people with sight loss have additional or complex needs.

How vision works

Visual information transmission

Visual information (transmitted as light) enters the eye via the cornea and the lens. In a healthy eye the light is projected onto the retina and passed to the optic nerve. This information is then converted into electrical signals, sent along the optic nerve, and then transmitted to different areas of the brain.

If the transmission of light is interrupted by changes to parts of the eye, optic nerve or brain, then our vision is impacted. The level and type of impact to our vision depends on which area of the eye, optic nerve or brain, has been affected.

Visual acuity

Your ability to see detail is known as visual acuity. Optometrists measure visual acuity both at distance and close up using eye charts with different sized letters.

Visual field

Visual field describes the entire area you can see and is divided into two areas: your central vision and peripheral vision (see sections that follow immediately for more). If you have a reduced visual field, things will appear misty in your

peripheral vision area. If you have a complete loss of visual field, you won't see anything in your peripheral vision area.

Central vision

Your central vision is the area you see in the middle of your visual field. It relies on the central area of your retina, known as the macula. If the macula, central parts of the retina or optic nerve are affected in any way you will struggle to see detail and colour.

Peripheral vision

Your peripheral vision is the area you see on the edges of your visual field. It depends on the healthy operation of cells that sit around the outside of the retina. If these cells are affected, and you have reduced peripheral vision (sometimes called tunnel vision), you may be sensitive to light and struggle in dull, dark or night settings. You may also have issues with seeing at night, have issues seeing and avoiding obstacles, or seeing people and other moving things that are not directly in front of you.

The most common conditions in the adults we support

We have included some images of what people with these conditions may see through their vision for further understanding.

Age related macular degeneration

Age related macular degeneration (ARMD) causes problems with central vision. ARMD is the biggest cause of sight loss in the adult population aged 65 years and over. It often affects both eyes.

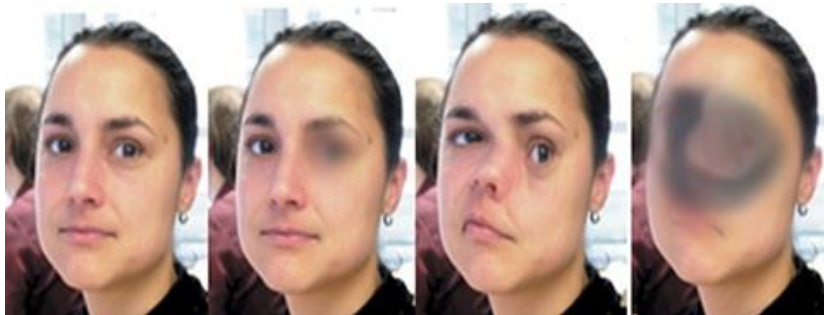


Practical implications of ARMD

ARMD impacts your ability to read print, small print books, information on medication and bus numbers. It can also affect your ability to see faces, pick up on facial expressions, or recognise people. You might also find it difficult to carry out tasks like writing, doing make-up, shaving and sewing. Seeing, identifying and avoiding objects and hazards could be an issue too.

Retinitis pigmentosa

Retinitis pigmentosa (RP) is a collective name for a group of progressive conditions that are often inherited and congenital. Retinitis Pigmentosa is said to occur in 1:4000 of the population and is the most common inherited cause of sight loss. It is also the most common condition among UK guide dog partners.



Practical implications of RP

If you have RP you may struggle with dusk and night-time conditions due to Nyctalopia (night blindness). Glare from bright light can also be an issue and you may be affected by sudden changes in lighting (for example, when you move from indoors to outdoors). You might also struggle to move around the home safely, see and avoid obstacles, or carry out daily activities like making a drink, personal care and shopping.

Glaucoma

Glaucoma is the collective term used to describe optic neuropathy (optic nerve damage).

The condition usually begins by affecting peripheral vision and can also affect acuity. If the condition progresses, it can impact the entire visual field. Most glaucoma conditions however can be treated with drops and/or surgery.



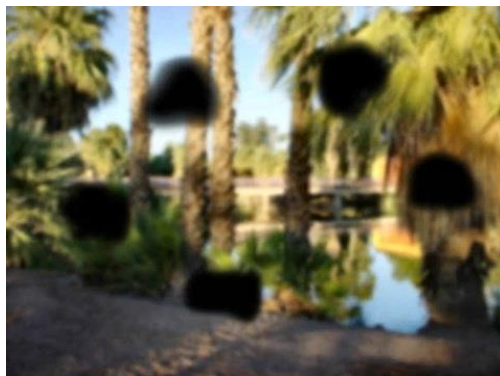
Practical implications of glaucoma

Like RP, when you have glaucoma you may struggle with dusk and night time conditions due to Nyctalopia (night blindness), and also with bright light and sudden changes (moving from indoors to outdoors).

Glaucoma can also reduce your ability to see colour. If you have ‘tunnel vision’ you may also have problems with avoiding obstacles or doing everyday tasks like making a hot drink.

Diabetic retinopathy

Diabetic retinopathy is the term used to indicate ocular changes that are occurring to the vascular (i.e. blood vessel) structure of the retina. It is generally caused by diabetes. Approximately 40% of people with type 1 diabetes show signs of the disease compared to 20% of people with type 2 diabetes.



Practical implications of diabetic retinopathy

With diabetic retinopathy you can have difficulties with personal care and everyday tasks due to restricted, fragmented visual field. Applying makeup, shaving, peeling or chopping food, and making a drink can all be particularly difficult.

Cataracts

Cataracts are a condition that causes clouding of the lens of the eye. It will usually occur when there is a change in the balance of the cells within the lens and its layers.

Cataracts can be congenital (from birth or soon after) but this is rare. Most commonly they occur after the age of 40. They can also be a secondary condition to RP and diabetes, be caused by accident or trauma, or be a side effect of long-term use of certain drugs.

While there are numerous forms of cataract, they can often be treated with surgery.



Practical implications of cataracts

If you have a cataract in one or both eyes this can cause issues with glare, seeing detail, seeing and recognising people, reading, and undertaking fine detailed tasks.

Cataracts can make the entire visual field appear misty or cloudy. Depending where the clouding of the lens occurs, they can also affect parts of the visual field.

Other Vision Related Conditions

- **Night Blindness:** night blindness results from pigmentary degeneration of the retina, which leads to difficulty seeing in low light.
- **Colour Vision Deficiency:** a colour vision deficiency occurs when cone cells of the retina, which provide daylight and colour vision, are affected and there is difficulty distinguishing among colours. Typically, this only involves certain hues, for example a red-green deficiency; total colour blindness (achromatic vision) is rare.
- **Lack of Depth Perception:** a lack of depth perception is often caused by the loss of sight in one eye, resulting in difficulty with foreground/background discrimination.
- **Floaters:** floaters are small specks or clouds moving in the field of vision.

Overarching practical implications of these sight conditions

Sight loss affects different people in different ways and at different times.

But there are some common areas of difficulty which can cause feelings of lost independence. These include, but are not limited to:

- Crossing roads and seeing where traffic is
- Recognising and negotiating kerbs or street furniture
- Glare from the sun and bright light
- Reduced ability to see low contrast (for example, seeing something that doesn't stand out against its background)
- No longer being able to drive
- Keeping employment and financial implications of this
- Applying makeup and dressing oneself
- Looking after children, pets and others
- Communication without eye contact

People with these conditions may also confuse harmless things with a hazard (i.e. they may think a shadow is a hole). They can also experience headaches, visual fatigue, or back and neck problems from constantly using strategies to help with their low vision.

Some frequent and natural responses to the above are:

- Isolation/loneliness
- Depression
- Feeling cut off from friends and family
- Low confidence/self-esteem
- Changed relationships if family are also carers
- The world becomes smaller

Additionally, sight loss in children and young people can often result in bullying, intensifying their sense of social isolation. Without specialist support, they may not develop the full range of skills required to interact fully in the 'adult world'.

Further information

Please visit the RNIB website to find out further information on common eye conditions.

If you would like to learn more about less common eye conditions, including those that affect Children and Young People (CYP) please visit <https://www.vincyp.scot.nhs.uk/conditions/>

All our work, from dogs to campaigning and My Guide service is designed to return independence to people with a vision impairment. (more information on all of our services can be found on our [website](#))