



## Information for Patients

# Retinal Dystrophy

### What is Retinal Dystrophy?

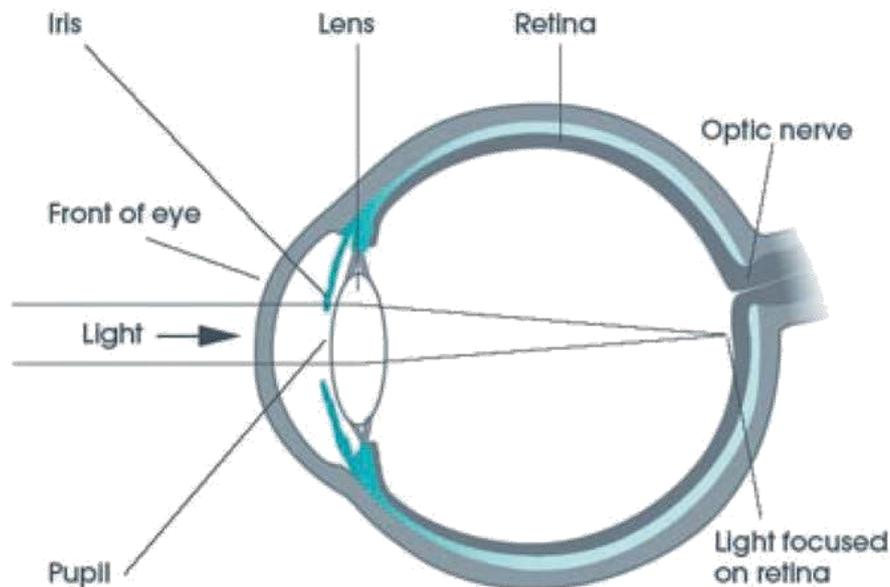
- A retinal dystrophy is a condition associated with reduced or deteriorating vision in both eyes.
- Retinal Dystrophy is not one single condition but the general name given to a wide range of eye conditions (for example, Retinitis Pigmentosa). 'Dystrophy' means a condition that a person is born with, 'retinal' means relating to the retina - the light sensitive film at the back of the eye.
- Most retinal dystrophies are genetic. This means they are caused by a mistake in a person's genes and both eyes are likely to be affected.
- Often the gene mistake has been passed (inherited) from one or both parents. There are a number of different ways in which this can happen (see 'Inheritance' section).
- Sometimes a new gene mistake occurs for the first time in an individual within a family but can then be passed on to future generations.
- Some retinal dystrophies are diagnosed early in life but sometimes symptoms do not develop until adulthood.
- Occasionally a retinal dystrophy can also be part of a pattern of particular problems which affect other parts of the body as well as the eyes ('Syndromic' retinal dystrophies).

### How does the eye work?

The eye is made up of 3 parts:

- A light focusing part at the front of the eye (cornea and lens).
- A light sensitive film at the back of the eye (retina).
- A large collection of communication wires to the brain (optic nerve).

## Structure of the eye



## The Retina

The retina has two types of light sensitive cells called Rods and Cones.

Rods are good for detecting:

- Things that move.
- In the dark.
- In black and white.
- Less detail.
- Mostly outer vision (peripheral).
- Rods help us to see the surrounding bits of vision and help us to walk around without bumping into things, especially in the dark.

Cones are good for detecting:

- Things that are not moving.
- In daylight.
- In colour.
- In fine detail.
- Mostly central vision.

Cones help us to see the central bit of vision that we use for reading, looking at photographs and recognising faces.

Retinal Dystrophy occurs in a wide range of eye conditions and can be divided into two main groups:

### **1. Isolated retinal dystrophies:**

- Early onset retinal dystrophies, for example, Leber Congenital Amaurosis.
- Rod-Cone Dystrophies, where the rods are the first part of the retina to be affected, for example, Retinitis Pigmentosa.
- Cone-Rod Dystrophies where the cones are the first part of the retina to be affected.
- Macular dystrophies, such as Stargardts disease, Best's disease.

### **2. Syndromic retinal dystrophies, for example:**

- Usher Syndrome.
- Batten Disease.
- Bardet-Biedl.

## **Inheritance**

Retinal dystrophies can be passed on within families by one of several different patterns of inheritance. These are known as Dominant, Recessive and X-linked. There are separate leaflets to explain each of these in detail, once you have been told which the likely pattern is in your particular condition/family.

## **Treatment**

There is currently no treatment available to cure retinal dystrophy or halt its progress. It is the result of incorrect instructions being passed to the body's chemistry by changes or mistakes in individual genes which are present in every cell in the body. Some of the genes known to cause retinal dystrophy have now been identified and research in this area is very encouraging. A number of gene therapy trials are underway but it is still likely to be many years before this translates into possible treatment options.

Where a faulty gene can be identified it may be possible to offer genetic testing to other family members to see whether they have inherited the same change.

## Further Support

Adjusting to a diagnosis of retinal dystrophy can be difficult but a number of organisations offer support/practical assistance including:

**RNIB:** Helpline 0303 123 9999; e-mail: [helpline@rnib.org.uk](mailto:helpline@rnib.org.uk)

**RP Fighting Blindness:** Helpline 0845 123 2354, website: [www.brps.org.uk](http://www.brps.org.uk)

**Henshaws Society for Blind People**, 88-92 Talbot Rd, Manchester, M16 0GS, Tel (0161) 872 1234, website: [www.henshaws.org.uk](http://www.henshaws.org.uk)

**Local Low Vision Aid clinics and Social Services Sensory Impairment Teams**

## For more information

If you need more advice about any aspect of Retinal Dystrophy, you are welcome to contact:

### **Manchester Centre for Genomic Medicine**

Sixth Floor  
Saint Mary's Hospital  
Oxford Road Manchester M13 9WL

Telephone: (0161) 276 6506 (Reception)

Facsimile: (0161) 276 6145

Department staffed Monday – Friday, 9.00 am to 5.00 pm.

Website: [www.mangen.co.uk](http://www.mangen.co.uk)

**Please let us know if you would like this leaflet in another format (e.g. large print, Braille, audio).**

Seen in clinic by (doctor): \_\_\_\_\_

And (Genetic Counsellor): \_\_\_\_\_

Telephone number: \_\_\_\_\_

Family reference number: \_\_\_\_\_