

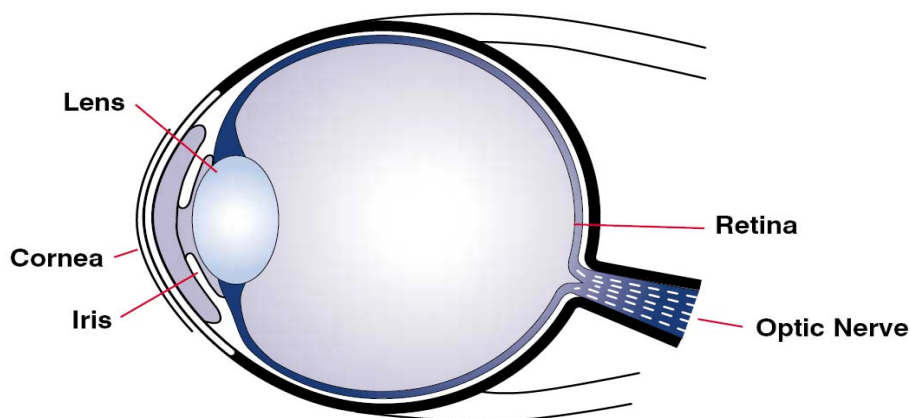
## CONE DYSTROPHY.

What we see is in fact made in the brain. The brain makes sight from signals given to it by the eyes.

### What is the normal structure of the eye?

The eye is made of three parts.

- A light focusing part at the front (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)



### **Retina.**

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

### **Rods are good at 'seeing'**

- Things that move
- In the dark
- In black and white
- Less detail
- Mostly 'outer' / peripheral vision

## **Cones are good at 'seeing'**

- Things that are still
- In daylight
- In colour
- In fine detail
- Mostly 'central' vision

## **What is Cone Dystrophy?**

Cone Dystrophy is an eye condition where the cones either:

- do not work from the day a child is born (Stationary)  
or
- slowly stop working during childhood and adolescence (Progressive)

Most cone dystrophies are 'genetic' (that is, there is a problem with the chemical make-up of the body)

Sometimes there is no known cause (idiopathic).

## **How does this affect the way my child sees?**

### **Vision**

1. **Blurred vision**, especially in the central area (where there are more cones). This may cause problems with reading, recognising faces and seeing small objects.
2. Although central vision is blurred the **outer vision is normal** and children usually have no problems getting around.
3. Poor **colour vision**.

### **Nystagmus**

This is an involuntary 'wobbling' of the eyes, which affects the ability to focus properly.

### **Photophobia / Glare**

Children may be uncomfortable in bright light. This may cause their eyes to water.

## What can be done to help?

There is no operation / treatment to cure Cone Dystrophy. There are however, things that can be can to help children see better.

### 1. **Glasses**

In Cone Dystrophy glasses may be needed and tinted lenses may help reduce glare.

### 2. **Hats**

To reduce glare a peaked hat or visor may be useful.

### 3. **Low Vision Aids**

Equipment such as magnifiers may be useful.

## How can parents, family, friends and teachers make a difference?

1. Be aware of the problems with **glare**. Children may need reduced or shaded light. Blinds and curtains are useful.
2. Wherever possible use **matt surfaces** for desktops, whiteboards, paper, wall, floors etc. Shiny surfaces, snow and water can reflect light, causing glare.
3. **Outdoor protection**. Encourage the child to wear specially tinted glasses (if prescribed).
4. **Near work**. A close reading position may be preferred and should not be discouraged.
5. **Seating in school**. Where possible the child should be seated close to the teacher, away from windows if there are no blinds and close to the board and TV.
6. **School Equipment**. Many children with Cone Dystrophy, at Key Stage 2 and above, benefit from using some type of magnifier. This enlarges print making reading less tiring. It may sometimes be helpful to provide a desk stand or a copyholder, which will bring work to eye level and prevent discomfort and poor posture.
7. Be aware of children's **difficulties with colours**

## Useful contacts.



### **Birmingham Focus on Blindness**

Tel: 0121 478 5200

### **RNIB**

Tel: 0845 766 9999

### **LOOK (or families with visually impaired children)**

Tel: 0121 428 5038

### **SPECS**

PO Box 118

Westerham

TN16 3WR

Tel 01959 570142

[www.eyeconditions.org.uk](http://www.eyeconditions.org.uk)

**This information is intended to describe most aspects of the condition but each child is different and there will always be exceptions.**

### **Acknowledgements**

This leaflet was compiled by a multidisciplinary team from the eye departments at Birmingham Children's Hospital and Birmingham Heartlands Hospital, Birmingham Focus on Blindness and Birmingham Specialist Support Services.