

# MEDIA BRIEFING

## The world's biggest causes of blindness and low vision

37 million people worldwide are blind, every year a further 2 million people will go blind. Without the proper interventions by 2020 75 million people will be blind. Eye conditions which pose the greatest threats are Cataract, Onchocerciasis, Trachoma, Glaucoma, Childhood Blindness and Refractive Error/Low Vision. However, Diabetic retinopathy is becoming an ever increasing risk as lifestyles are changing and diabetes is becoming more prominent. The majority of blindness is concentrated in some of the poorest regions of the world.

### Cataract

Cataract is a cloudiness of the lens, which stops light from entering the eye and leads to blindness. Although cataract occurs in both rich countries and poor countries, it has much more serious consequences in the latter, where people have little access to medical care or money to spend on surgical procedures. Cataract is the biggest cause of blindness in the world. There is no specific cause of cataract; poor diet, bright light, bad sanitation are all thought to contribute.

### **What we do**

Cataract cannot be prevented but can be cured through an operation to remove the cloudy lens and replace with an intra-ocular lens (a clear plastic lens). This has been described by the World Bank as “one of the most cost-effective surgical interventions”.

We work through local partners in communities to identify people with cataract, perform cataract surgery and provide the appropriate follow-up care. A simple cost-effective 20-minute operation can restore the sight to someone blinded from cataract.

### **Statistics**

- 17.7 million people are blind through cataract (47.8% of global total)
- £17 can restore sight to an adult with cataracts
- £27 can restore sight to a child with cataracts

### Onchocerciasis: River Blindness

Onchocerciasis is caused by a parasite, transmitted to humans through the bite of the black simulium fly. These flies breed in fast-flowing streams and rivers. Within the human body, the adult parasite produces thousands of tiny worms which migrate throughout the body. They produce terrible itching and skin problems and, on reaching the eye cause permanent blindness. The distribution of Onchocerciasis is linked to the location of the black flies, which are found close to fast-running streams and rivers in inter-tropical zones. Therefore about 90 per cent of the disease occurs in Africa. Onchocerciasis is also found in six countries in Latin America and in Yemen in the Arabian Peninsula.

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The disease tends to affect people in their 30s and 40s – the age when families are most dependent on them. Many children also suffer by having to miss out on an education because they stay at home and act as full-time carers for older relatives who have river blindness.

## What we do

The disease can be stopped from developing further and prevented by taking an annual dose of Mectizan®. This drug kills the baby worms but not the adult and so has to be taken for at least 20 years to ensure the adult parasite is dead. This also means that flies biting people do not pick up new parasites to pass on to other people.

## Statistics

- 18 million people are affected
- 296,000 people have been blind by the condition (0.8% of global total).

## Trachoma

Trachoma is a disease of poverty and one of the oldest known to mankind. It affects mainly women and children in hot, dry and dusty areas where there is poor availability of water and sanitation. Trachoma is caused by a microorganism, *Chlamydia trachomatis*, which is spread through flies from the discharge of an infected person. After years of repeated infection, the inside of the eyelid may be scarred so severely that the eyelid turns inward and the lashes rub on the eyeball, scarring the cornea (front of the eye) If untreated this condition leads to blindness.

Trachoma continues to be hyperendemic in many of the poorest and the most remote rural areas in Africa, Asia, Central and South America, Australia and the Middle East. In these areas pre-school children are most at risk with prevalence rates as high as 60-90 percent. Adult women are at much greater risk than adult men; this increased risk is probably due to women generally spending more time in close contact with small children.

## What we do

Sight Savers follows the World Health Organization's SAFE strategy. Each stage of the strategy tackles trachoma at different stages of its 'life cycle'. Sight Savers provides antibiotic treatment to cure trachoma infections. We also support local partners who perform trichiasis surgery to stop advanced trachoma from blinding irreversibly. Support is also given to community based workers who devise strategies with communities, which allow them to make their environment less susceptible to the conditions that trachoma needs to thrive on.

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Trachoma is an agonising disease. It is the leading cause of preventable blindness and can be cheaply and easily prevented and treated.

## **Statistics**

- Trachoma affects 84 million people
- of which, 8 million are visually impaired
- and 1.3 million people are blind (3.6% of global total).

## **Glaucoma**

Glaucoma is a group of eye conditions characterised by damage to the optic nerve, which results in loss of the peripheral field of vision. It is often in association with raised pressure inside the eye, and often advances very slowly. People may be unaware they have it until they have lost a lot of their vision.

## **Statistics**

- Glaucoma affects 60 million people
- of whom 6 million are blind

## **Diabetic retinopathy**

Diabetic retinopathy is caused by changes to the blood vessels in the retina at the back of the eye. The blood vessels can either become blocked or leak, resulting in blindness. Insulin users are more likely to get blocked blood vessels in the retina, which can lead on to new abnormal blood vessels forming.

## **Childhood blindness**

Childhood blindness refers to a group of diseases and conditions occurring in childhood or early adolescence. The major causes of blindness in children vary widely from one region to the next and are largely determined by socioeconomic development, and the availability of primary health care and eye care services. In high income countries, lesions of the optic nerve is the predominate cause of blindness, while corneal scarring from measles, Vitamin A deficiency, through either malnutrition or diseases such as measles or rubella; and cataract are the major causes in low-income countries.

Childhood blindness is often a race against time – if a child is not treated before the age of seven the brain may not ever ‘learn to see’

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## Statistics

- 1.4 million children are blind in the world
- Three-quarters of these children live in Africa and Asia
- 90% of blind children in the developing world do not go to school.
- 43% of blindness in children is preventable

## Low Vision

A person with low vision is an individual who after correction of a refractive error, and surgical or medical treatment, has a visual acuity of  $<6/18$ . This person will only be able to see shapes, lights and movements. A person with a treatable eye condition such as cataract or diabetic retinopathy does not fall into this category.

Low vision has no specific cause. It usually results from eye conditions such as river blindness, corneal scarring and albinism (the absence of pigment in the iris).

## What we do?

Sightsavers believes that the first step in helping those with low vision is training people to identify the condition and advice how best to live with it.

- we train eye care workers, rehabilitation workers and special education teachers to be aware that people with low vision can be helped
- we train people to make lenses (refractionists) suitable for stronger reading glasses
- we provide affordable glasses

## Statistics

- Low vision is estimated to affect 124 million people.

## Refractive Error

### What is it?

Like a camera, the human eye must be properly focused to see an image clearly. If light does not bend or refract correctly and focus directly on the retina, the result is blurred vision, or a refractive error.

The four most common refractive errors are:

- [myopia](#), or nearsightedness,
- [hyperopia](#), or farsightedness,
- [astigmatism](#), and
- [presbyopia](#).

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Refraction is the task of testing people's eyesight in order, where possible, to correct someone's vision through aids such as glasses

## What we do?

- Provide glasses at low or no cost
- Train people in how to identify refractive error.
- Ensure that glasses are always available to those who have been refracted.

## Statistics

- 250 million people are functionally blind worldwide

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