If you have problems with your eyes and can't see properly it can be difficult to do things like cooking, reading, watching TV, or mixing with other people, or finding a job. It may also mean that you have to depend on services and on other people in day-to-day living.

The health of your eyes can get worse through:
- old age
- sickness
- smoking cigarettes
- injury
- exposure to sunshine
- not having a healthy diet
- illness passed down from your parents or grandparents
- being born early, before the due date (prematurely)

For 8 out of 10 people in the world who become blind their blindness could have been prevented [1]. For many eye problems, treatment doesn't cost a lot and is often successful.

In Australia, the percentage of the population over the age of 50 years is increasing. The risk of eye problems increase as people grow older and it is expected that by the year 2030 the number of people who have problems with their eyes and can't see properly will be double what it is today [2].

A study in Melbourne found that for people aged 40 years or older there were five major causes of eye problems:
- eyes couldn't focus normally (refractive error)
- cataract (the lens of the eye becomes cloudy)
- eye damage caused by ageing
- eye damage caused by diabetes
- glaucoma (disease which causes damage to eye nerve cells) [3]

More detailed information about eye health in Indigenous people can be found at:
http://www.healthinfonet.ecu.edu.au/eye_review
Eye focussing problems (refractive error)

For a person to be able to see properly, the image of an object needs to be focussed on light-sensitive tissue at the back of the inside of the eye (the retina). If the image is not focussed correctly, it will look blurred (not clear).

The main types of focussing problems are:

- long-sighted vision (hyperopia), which occurs when the eyeball is too short and light rays focus behind the retina, making close objects look blurred.
- short-sighted vision (myopia), which occurs when the eyeball is too long and light rays focus in front of the retina, making distant objects look blurred.
- astigmatism, which is due to the shape of the front surface of the eye (the cornea) not being normal, causes blurred images at all distances. Astigmatism often occurs with long-sighted and short-sighted vision.
- focusing problems for older people (presbyopia), are usually noticed over the age of 40 years. These problems are caused by the lens of the eye losing its flexibility and being less able to change shape, making it harder to see close objects.

People should have regular eye tests - by an optometrist or doctor - at least once every five years. If you suddenly develop a serious eye problem your eyes should be examined without delay. Spectacles or contact lenses can be used to correct refractive error. Surgery is also available for some refractive error problems.

Eye problems caused by diabetes (diabetic retinopathy)

If a person has diabetes, it can cause a problem with their eyes called diabetic retinopathy. Diabetes is a sickness that happens when the body does not produce enough insulin (a hormone which controls the amount of sugar in our blood).

Diabetes can cause damage to small blood vessels in the light-sensitive tissue at the back of the inside of the eye (the retina), which affects the ability to see properly. The blood vessels that supply the retina may expand and leak fluid [4]. A person may not notice any change in their vision when they develop the early form of the disease.

Further problems can be caused by leaking fluid gathering in the eye. This can make reading and other viewing difficult. Sometimes delicate new blood vessels may grow on the surface of the retina and can cause serious vision problems. Scar tissue may also develop, which can pull the retina away from the back of the eye and possibly cause blindness.

If you have diabetes, you will need to have regular eye checks. Early treatment can prevent eye problems getting worse. The longer the time a person has diabetes, the more likely they are to develop eye problems.

To prevent diabetic retinopathy, a person with diabetes needs to follow treatment advice from a health professional. Some people with diabetes, such as pregnant women and those with high blood pressure, have a higher risk of developing diabetic retinopathy [4].

Trachoma

Trachoma is an eye infection caused by a type of bacteria. In some parts of the world, it is a common eye disease that causes blindness and millions of people need treatment. In Australia, it mainly affects the Indigenous population in northern and central parts of the country and is due largely to poor living conditions [5].

The early stage of trachoma usually occurs in young children, most commonly aged 2 to 3 years, but can occur in older children up to the early teenage years [5].

If not treated, trachoma can damage the eyes and eyelids [4]. This can make the eyelashes turn inwards and damage the front of the eye (cornea), which becomes ‘cloudy’. Eventually a person can become blind. Trachoma can be treated by taking antibiotics (medicine).

A strategy that is recommended to prevent trachoma (developed by the World Health Organization) is known as SAFE, which stands for:

Surgery for in-turned eyelashes
Antibiotics (medicine)
Facial cleanliness and
Environmental improvement [6].

Gonococcal conjunctivitis

Gonococcal conjunctivitis is a highly infectious, painful and sight-threatening condition caused by a type of bacteria. Symptoms include intense inflammation of the eye and discharge [7].

This type of bacteria is usually passed between people through sexual contact, but it can also be passed by non-sexual contact. It only survives in warm, moist conditions and dies rapidly in a dry cold atmosphere.
Medical tests are needed to see if a person has the disease. Antibiotics are used for treatment.

**Eye damage due to the ageing process (macular degeneration)**

As people get older they can develop macular degeneration, which is damage to the macula (a small part of the retina) that helps a person see fine details. It is a disease that affects the centre of the field of vision and is a common reason for poor eyesight for people aged 60 years or older. People who smoke are more likely to develop age-related macular degeneration than those who don't smoke [8].

**Cataract**

A cataract is a 'clouding' of the clear lens of the eye that prevents light from reaching the retina at the back of the eye. In its early stages, a cataract may cause reduced vision but eventually it can cause blindness. People are more likely to develop cataracts as they grow older.

Cataracts can also be caused by:

- smoking cigarettes
- sun exposure
- diabetes
- injury to the eye
- some drugs

An eye test will show if a person has a cataract. If an operation is needed, the lens of the eye is replaced with an artificial lens. Usually the person only needs to go to hospital for a day. This operation usually helps a person to see again, but they may need to wear glasses.

**Glaucoma**

Glaucoma is a condition that leads to poor drainage of the clear liquid that normally flows in and out of the front section of the eye. This causes increased pressure that can damage the nerve cells and lead to loss of eyesight.

The symptoms are usually not noticeable to the person affected until damage has been done to eye. To see if a person has glaucoma, an optometrist or doctor examines the eye's nerve fibres and drainage network and measures eye pressure (using an instrument called a tonometer).

The risk of getting the most common form of glaucoma increases with age. Unfortunately, half of those people with glaucoma do not know that they have the disease and do not receive treatment. Without treatment, they will lose vision and once this vision is lost it cannot be restored.

A family history of glaucoma increases the risk at least four times [9]. People with glaucoma need to tell their brothers, sisters, sons and daughters (first-degree relatives) about their family risk of developing glaucoma. People who have a family history of glaucoma need to have their eyes checked regularly.

**Pterygium**

A pterygium is a triangle-shaped thickening in the inner corner of the eye [10]. It does not produce many symptoms, but in some cases the eye may become red and inflamed. A pterygium can grow over the iris (the coloured part of the eye) and can damage eyesight if it extends over the pupil, through which light has to pass to the retina on the back of the inside of the eye.

It is likely that a pterygium is caused by sun exposure and affects people who live in the warm, dry regions of Australia and those who spend most of their time outdoors.

Other reasons include:

- allergies
- irritants such as wind, dirt, dust, air pollution
- some chemicals
- possibly family risk

The pterygium may be removed by a doctor if it grows towards the pupil edge or affects the vision.
References

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10. Thomson N, Paterson B (1998) Eye health of Aboriginal and Torres Strait Islander people. Aboriginal and Torres Strait Islander Health Reviews; 1:
The Australian Indigenous HealthInfoNet is an innovative Internet resource that contributes to ‘closing the gap’ in health between Indigenous and other Australians by informing practice and policy in Indigenous health.

Two concepts underpin the HealthInfoNet’s work. The first is evidence-informed decision-making, whereby practitioners and policy-makers have access to the best available research and other information. This concept is linked with that of translational research (TR), which involves making research and other information available in a form that has immediate, practical utility. Implementation of these two concepts involves synthesis, exchange and ethical application of knowledge through ongoing interaction with key stakeholders.

The HealthInfoNet’s work in TR at a population-health level, in which it is at the forefront internationally, addresses the knowledge needs of a wide range of potential users, including policy-makers, health service providers, program managers, clinicians, Indigenous health workers, and other health professionals. The HealthInfoNet also provides easy-to-read and summarised material for students and the general community.

The HealthInfoNet encourages and supports information-sharing among practitioners, policy-makers and others working to improve Indigenous health – its free on line yarning places enable people across the country to share information, knowledge and experience. The HealthInfoNet is funded mainly by the Australian Department of Health and Ageing. Its award-winning web resource (www.healthinfonet.ecu.edu.au) is free and available to everyone.