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## Eyes - trachoma

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### Summary

- Trachoma is a bacterial infection of the eye that can cause complications including blindness.
  - This communicable disease still occurs in many outback Aboriginal communities.
  - Treatment includes antibiotics to kill the infection, surgery to correct eyelid deformities and health promotion and environmental health to promote clean faces.
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Trachoma is a bacterial infection of the eye that can cause complications including blindness. It is caused by *Chlamydia trachomatis*. This preventable disease is linked to poor hygiene and is often associated with poverty. Lack of facial cleanliness is the key factor that allows the spread of the infection. Trachoma is also sometimes known as sandy blight.

This communicable disease is still common in many outback Aboriginal communities. More than 50 developing countries throughout Africa and Asia are also affected by trachoma, particularly in rural areas where hygiene tends to be poor.

During the 20th century, there was considerable improvement in living conditions around the world. Separate rooms for sleeping, running water and plumbed sewerage meant that trachoma disappeared from all developed countries – except Australia.

Australia is the only Western nation still affected by trachoma. In 2009, the Australian Government made a commitment to eliminate blinding trachoma from Australian Aboriginal communities by 2020.

### How trachoma is spread

Trachoma is a communicable disease caused by the bacterium *Chlamydia trachomatis*. It is usually transmitted by:

- direct contact such as touching infected eye secretions
- other forms of direct contact such as touching infected nasal secretions
- indirect contact such as touching contaminated items – for example, towels, sheets, blankets or clothing.

### Symptoms of trachoma

Signs and symptoms begin within five to 12 days following infection and may include:

- eye irritation, redness and discharge (conjunctivitis)
- swelling of the eyelids
- inflammation inside the upper eyelid and lymphoid follicles (lumps caused by an immune system reaction)
- scarring and distortion of the upper eyelid develops over time from repeated episodes of reinfection
- development of eyelashes that turn into the upper lid and then rub on the cornea
- abnormal growth of corneal blood vessels
- cornea scarring (transparent membrane that covers the eye surface).

People with trachoma may not experience symptoms (asymptomatic) and the condition may go unrecognised, unless it is specifically looked for.

### Complications of trachoma

Without medical treatment, recurrent infections and inflammation can cause corneal scarring and eyelid deformities. A common late complication is eyelid inversion (entropion) – the lashes turn inwards (trichiasis) and continually rub against the cornea. This irritation can cause vision loss and blindness in the long term.

## The incidence of trachoma is high among Aboriginal populations

Trachoma remains rife in many Aboriginal communities in outback Australia. Depending on the area, community disease rates range from five per cent to more than 20 per cent.

### Risk factors of trachoma

Trachoma is linked to poor personal and community hygiene, and is often associated with poverty.

Particular risk factors include:

- inadequate personal hygiene, especially a dirty face
- lack of understanding about the importance of environmental cleanliness and personal hygiene, especially about facial cleanliness in children
- inadequate housing and the lack of functional bathrooms
- crowded living conditions, such as having children share the same bed
- poor water supply (about one Indigenous person in six doesn't have a drinkable water supply in the Northern Territory)
- living inland, since coastal populations can clean themselves by swimming in the sea
- young age, since the infection is more common among preschool children.

### Diagnosis of trachoma

Tests used to diagnose trachoma may include:

- medical history
- physical examination including an eye examination (including everting or flipping the eyelid)
- eye swab for laboratory testing, but the diagnosis is normally made by clinical examination.

### Treatment for trachoma

Treatment depends on the severity of the condition, but may include:

- **antibiotic medications** – a single oral dose of an antibiotic (azithromycin) is the first line of treatment in uncomplicated cases. This medication kills off the bacteria so that the body's natural healing processes can repair the eye. Antibiotics must be given to all household members where trachoma is found. In areas where there is widespread infection, the whole community may need to be treated. Treatment may need to be repeated every six to 12 months
- **surgery** – this is used to correct the eyelid deformity and evert (turn outwards) the injured eyelashes in older people.

### Prevention of trachoma

A clean face and clean environment are the key prevention strategies to combat trachoma (no visible secretions from the eyes or nose). The Australian guidelines (prepared by Communicable Disease Network Australia) closely follow those outlined in SAFE, the World Health Organization's proposed form of trachoma control. SAFE stands for **S**urgery, **A**ntibiotics, **F**acial cleanliness and **E**nvironmental improvement.

Prevention of trachoma in remote communities is proving to be difficult. During the 1970s, the Australian Government treated nearly 40,000 Australians affected with trachoma. In November 2006, the National Trachoma Surveillance and Reporting Unit (NTRSU) was established to combat trachoma among outback Aboriginal communities.

The proper implementation of the full SAFE Strategy has significantly reduced trachoma in many communities. The overall prevalence of trachoma in children between five and nine years old in endemic areas in 2009 was 14 per cent and in 2012, this had been reduced to four per cent. However, according to the NTRSU, 25 per cent of communities had rates over 10 per cent.

## Where to get help

- Your doctor
- Ophthalmologist or optometrist
- **Indigenous Eye Health Unit**, The University of Melbourne Tel. (03) 8344 9320
- **Royal Australian and New Zealand College of Ophthalmologists** Tel. (02) 9690 1001

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