BrienHoldenVisionInstitute

TRACHOMA

THINK

You evert the eyelids of a school-aged child and see large white spots under the eyelid.
What do you do?

WHAT YOU WILL LEARN

When you have worked through this unit you should be able to:

- Look for the signs of trachoma
- Describe the treatment of trachoma using the SAFE strategy – as recommended by the World Health Organisation (WHO).

Copyright © 2009

TRACHOMA

WHAT IS IT?	• Trachoma is a bacterial infection of the eye that can cause complications – including blindness
	• It is the most common cause of infectious blindness
	• Blindness from trachoma is preventable
	• Trachoma is associated with poor personal and community hygiene
	• It commonly occurs in rural communities with:
	  ○ Poverty and over crowding
	  ○ Poor sanitation
	  ○ Limited access to clean water
	  ○ Poor health services
	• Poor facial hygiene is the key factor causing the spread of the bacterial infection
	• The early stages of trachoma are most often seen in young children, mostly under five years old
	• Children usually get reinfected over and over again, which causes scarring of the upper lid conjunctiva – which can eventually cause the eyelid and eyelashes to turn inwards, towards the eyeball (this is called trichiasis)
	• If the eyelashes turn in on the cornea, the cornea becomes scarred from the scratching of the lashes and infection
	• This irritation can cause scarring of the cornea, which can lead to vision loss and blindness in the long term.

CAUSES	• Trachoma is caused by a bacteria called *Chlamydia trachomatis*
	• It occurs in areas where living conditions are crowded and hygiene is poor
	• Trachoma is usually transmitted by:
	  ○ Direct contact with the eye, nose and throat secretions of affected individuals
	  ○ Indirect contact with contaminated objects such as towels, pillows or clothing
	  ○ Flies and gnats (which sit on the face and eyes)
	• Young children often pass on trachoma by touching their own eyes and then touching other children
	• Trachoma is more common among preschool children.

SYMPTOMS	• The bacterial infection causes inflammation of the cornea and conjunctiva
	• Early symptoms include:
	  ○ Photophobia (light sensitivity)
	  ○ Foreign body sensation (feels as if something in the eye)
	  ○ Watery eyes
	  ○ Stinging pain in the eye
	  ○ Swollen eyelids
	  ○ Eye irritation, redness and discharge (conjunctivitis)
	• People with trachoma infection can also have other ear, nose and throat complications
	• If the condition is not treated, the conjunctiva thickens and gradually forms scar tissue
	• This scarring causes the eyelids and lashes to turn inwards, so they rub against the cornea
	• This turning-in of the eye lashes (called trichiasis) can cause ulceration of the cornea, which is very painful
	• If the disease is still not treated and advances further, the scarring can become so severe that is causes blindness – usually around the age of 40 or 50 years old.

Copyright © 2009

WHAT SHOULD I DO?	• Take a thorough case history • Measure visual acuity • Evert the upper and lower eye lids and check for scarring and/or follicles • Take a close look at the cornea and conjunctiva with a torch or slit lamp • Use a bright light and a 2.5x magnifying loupe if you have one.
SIGNS	• Inflammation inside the upper eyelid • Follicles on the eyelid conjunctiva – they look like yellow or white spots or bumps • If the inflammation is active and severe, the conjunctiva may look thick and velvety, making the underlying blood vessels difficult to see • Scarring and distortion of the upper eyelid – this might appear as white lines or bands of scar tissue, which tells us that the person has had trachoma before • Eye lashes that turn inwards, causing one or more of the eyelashes to rub against the cornea (trichiasis) • Abnormal blood vessels growing on the cornea • The cornea may look cloudy or opaque.

Copyright © 2009

WHAT DOES IT LOOK LIKE?	
	Figure 11-1: Normal pink conjunctiva on the eyelid [photo courtesy of the IER] ***Figure 11-2: Trachomatous inflammation of the eyelid conjunctiva [photo courtesy of the WHO]***

SIMPLIFIED WHO GRADING SYSTEM	The World Health Organization (WHO) recommends the following a simplified grading system for trachoma:
	• **Trachomatous inflammation, follicular (TF)**
	  ○ Five or more follicles of ≥0.5 mm in diameter in the central part of the upper eyelid conjunctiva (also called the tarsal conjunctiva)
	• **Trachomatous inflammation, intense (TI)**
	  ○ Papillary hypertrophy
	  ○ Inflammatory thickening of the upper tarsal conjunctiva, obscuring more than half the deep tarsal vessels
	 A person is said to have active trachoma if he or she has TF and/or TI in either eye.
	• **Trachomatous scarring (TS)**
	  ○ White bands of scar tissue in the upper tarsal conjunctiva
	• **Trachomatous trichiasis (TT)**
	  ○ At least one ingrown eyelash touching the globe, or evidence of epilation (eyelash removal)
	  ○ The prevalence of TT determines the probable need for surgery

Copyright © 2009

- **Corneal opacity (CO)**
  - Corneal opacity blurring part of the pupil margin.

Figure 11-3: Trachoma Follicles
Five or more white bumps (follicles) larger than 0.5mm wide
[photo courtesy of the WHO]

Figure 11-4: Trachomatous Follicles (intense)
Note the redness of the eyelid conjunctiva; the inflammation is so severe you cannot see the normal blood vessels of the conjunctiva
[photo courtesy of the ICEH]

Figure 11-5: Trachomatous scarring
Note the white lines of scar tissue in the upper eyelid conjunctiva
[photo courtesy of Hugh Taylor: ICEH]

Copyright © 2009

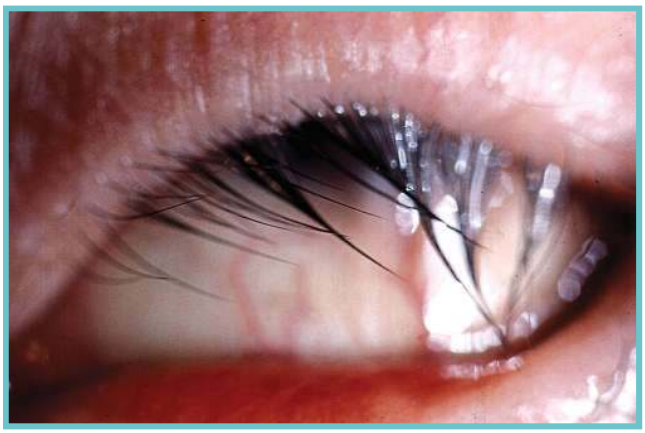

Figure 11-6: Trachoma Trichiasis
Note how the eyelashes turn in towards the eye instead of turning away from the eye
[photo courtesy of Murray McGavin: ICEH]

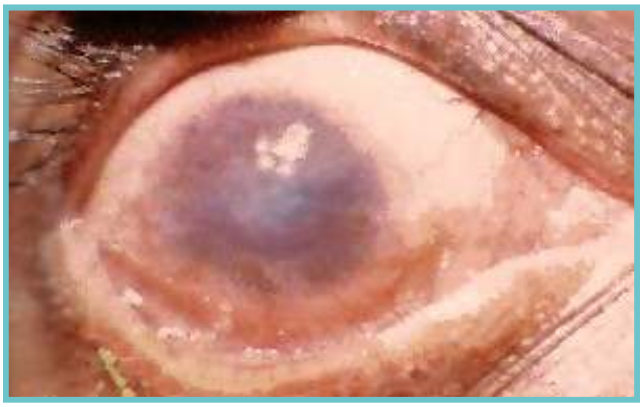

Figure 11-7: Corneal Opacity (CO) – the cornea is scarred over the pupil
and it is bad enough to affect vision
[photo courtesy of the WHO]

Copyright © 2009

TREATMENT PLAN: S A F E	

	• The WHO proposes the SAFE strategy for trachoma control
	• SAFE stands for:
	  ○ **S**urgery (to correct advanced stages of the disease)
	  ○ **A**ntibiotics (to treat active infection)
	  ○ **F**acial cleanliness (to reduce disease transmission)
	  ○ **E**nvironmental improvement (to increase access to clean water and improved sanitation)
	• A clean face and clean environment are the crucial prevention strategies
	• Frequent washing of the face of an infected child can prevent transmission of the bacteria to other children
	
	TF and TI
	• Refer for antibiotics
	• Trachoma is contagious, so the whole community may need treatment
	
	If you see TF or TI, the whole community needs treatment (or at least the person's family).
	
	TS
	• Recheck the person regularly to make sure it does not progress to TT
	• Tell the person to come back if they feel as if there is something in their eye (foreign body sensation)
	
	TT and CO
	• Do not try to pull out the eyelashes that are growing inward
	• Refer to an eye specialist – these people need surgery
	
	We need to make sure we use all four parts of the SAFE strategy together to prevent blindness or vision loss caused by trachoma, and to help eliminate the condition.

SUMMARY - TRACHOMA

TRACHOMA

- Trachoma is the most common cause of infectious blindness
- Commonly seen in poverty stricken communities with:
  - Over crowding
  - Poor sanitation
  - Limited access to clean water
  - Poor health services
- It is infectious and spreads easily from person to person
- If left untreated it can eventually cause blindness.

Copyright © 2009

WHAT DOES IT LOOK LIKE?

- **Trachomatous Follicles (TF)**
  - Look for follicles
  - Yellow or white lumps or spots on the eye lid conjunctiva
  - 5 or more follicles, 0.5 mm or bigger in size
- **Trachomatous Follicles Intense (TI)**
  - Look for intense red conjunctiva where you cannot see the underlying blood vessels
- **Trachomatous Scarring (TS)**
  - Look for white bands or lines of scar tissue
- **Trachomatous Trichiasis (TT)**
  - Look for eye lashes turning into the eyeball
- **Corneal Opacity (CO)**
  - Look for a scarring on the cornea over the pupil.

WHAT SHOULD I DO?

- **TF or TI**
  - Refer for antibiotics
  - Treat the whole community or at least the person's family
- **TS**
  - Monitor
- **TT or CO**
  - Refer to eye specialist.

HOW CAN WE STOP PEOPLE FROM GOING BLIND FROM TRACHOMA?

- Refer people with TT or CO for **Surgery**
- Use **Antibiotics** to treat people with TF or TI (treat the whole community or at least the person's family)
- **Facial** cleanliness
- **Environmental** improvement
- This is called the SAFE strategy.

Copyright © 2009

TEST YOURSELF QUESTIONS

1. **A man with Trachomatous Trichiasis (TT) visits your clinic. What will you see when you examine his eyes?**

_____
_____
_____

2. **You see a woman with Trachomatous Follicles (TF). What should you do?**

_____
_____
_____

3. **Describe each part of the SAFE strategy:**

S _____
A _____
F _____
E _____

4. **A person comes to see you, and their eye looks like the picture below.**
How do you grade it and what should you do?

[photo courtesy of the ICEH]

_____
_____
_____

Copyright © 2009