Module 2. NTD Strategies

Session 3. Trachoma Morbidity Management and Disability Prevention (MMDP)
Trichiasis

Caused by infection with a bacterium, *Chlamydia trachomatis*. Starts in childhood, with repeated episodes of infection.

Repeated infections → inflammation and scarring of the conjunctiva that pulls the eyelashes inward (trichiasis) and eventually the whole upper lid inward (entropion) so that they touch the eye.

Scraping of the eyelashes on the cornea → cornea turns opaque resulting in a loss of vision. Lacrimal secretions are also affected, reducing the eye’s defenses against secondary infection.
WHO Grading Card

TRACHOMATOUS SCARRING
- The presence of scarring in the tarsal conjunctiva.
- Scars are easily visible as white lines, bands, or sheets in the tarsal conjunctiva. They are glistening and fibrous in appearance. Scarring, especially diffuse fibrosis, may obscure the tarsal blood vessels.

TRACHOMATOUS TRICHIASIS
- At least one eyelash rubs on the eyeball.
- Evidence of recent removal of inflamed eyelashes should also be graded as trichiasis.

CORNEAL OPACITY (CO): easily visible corneal opacity over the pupil.
- The pupil margin is blurred viewed through the opacity. Corneal opacities cause significant visual impairment (less than 6/18 or 0.3 visual), and therefore visual acuity should be measured if possible.

WHO HEALTH ORGANIZATION
PREVENTION OF BLINDNESS AND DEAFNESS

Support from the partners of the WHO Alliance for the Global Elimination of Trachoma is acknowledged.

TF:-- give topical treatment (e.g. tetracycline 1%).
TI:-- give topical and consider systemic treatment.
TT:-- refer for eyelid surgery.

Normal tarsal conjunctiva (x 2 magnification). The dotted line shows the area to be examined.

Trachomatous inflammation -- follicular (TF).

Trachomatous inflammation -- follicular and intense (TF + TI).

Trachomatous scarring (TS).

Trachomatous trichiasis (TT).

Follicles are round swellings that are paler than the surrounding conjunctiva, appearing white, grey or yellow. Follicles must be at least 0.5mm in diameter; i.e., at least as large as the dots shown below, to be considered.

TF:-- give topical treatment (e.g. tetracycline 1%).
TI:-- give topical and consider systemic treatment.
TT:-- refer for eyelid surgery.

Trachomatous inflammation -- follicular (TF).

Trachomatous inflammation -- follicular (TF).

Support from the partners of the WHO Alliance for the Global Elimination of Trachoma is acknowledged.

TF:-- give topical treatment (e.g. tetracycline 1%).
TI:-- give topical and consider systemic treatment.
TT:-- refer for eyelid surgery.

Trachomatous inflammation -- follicular and intense (TF + TI).
The SAFE Strategy

Surgery
for in-turned eyelids

Antibiotics
to clear infection

Facial cleanliness
to prevent transmission

Environmental improvement
to increase access to water and sanitation

Images courtesy of the International Trachoma Initiative
‘S’ Surgery for Trichiasis

- Correct entropion so eyelashes no longer touch the eye.
- Indicated for those at immediate risk of blindness.
- A fairly simple procedure: can be offered in the community or at health centres.
- Patients are often afraid of the operation.
- Pre and post-operative counseling is essential as well as high quality surgery.
- Lid surgery relieves pain but does not remove scarring or restore sight (some improvements may occur).
- A proportion of patients successfully operated on will develop recurrence.
SURGEONS MUST HAVE TRAINING, CERTIFICATION AND SUPERVISION TO REDUCE THE RATE OF SURGICAL FAILURE FROM SURGERY NOT BEING CORRECTLY PERFORMED.
Postoperative Care for Trichiasis

After surgery, eye is cleaned with saline solution and tetracycline eye ointment is applied between the lower lid and eyeball 3x daily for 7 days (some programs offer azithromycin at surgery to improve outcomes).

Preferably a follow-up on day 7 by the surgeon to:

- Remove sutures (if non-absorbable)
- Check for local infection
- Check for pain
- Check for eyelid closure defect
WHO ARE THE TARGET CANDIDATES FOR COMMUNITY LEVEL SURGERY FOR TRACHOMATOUS TRICHIASIS (TT)?
Indications for Community Level Surgery

- Not all patients require surgery.
- One or more eyelashes rubbing on the eyeball.
- Evidence of recent removal of in-turned eyelashes.
- Evidence of entropion and corneal damage (CO).
- Pain (even with compromised cornea)
HOW CAN WE IMPROVE CAPACITY AND THE NUMBER OF PEOPLE TREATED?
Outreach Surgical Services

- Health education/counseling to inform eligible candidates of treatment options and encourage their participation.
- Ongoing training and supervision of ophthalmic assistants and nurses in surgical procedure.
HOW CAN WE ENSURE AND VERIFY THE QUALITY OF SURGICAL SERVICES?
Quality Control

- Good quality training, adequate practice, and supportive supervision by trainers.
- Ensure adequate supplies of materials and consumables to ensure higher productivity.
- Regularly use WHO Surgeon’s Assessment.
- Is having more surgeons better? Discuss...
WHAT ARE THE KEY MESSAGES OF THIS SESSION?
Key Messages

• The main morbidity from trachoma is impaired vision or blindness due to trichiasis.

• Community-level surgery (the “S” in the SAFE strategy), should be performed by trained surgeons, relieves pain and improves vision but will not restore sight if sight is already lost.

• Good quality surgery is a simple, cost-effective procedure that prevents further corneal scarring.