

Trichiasis surgery: a patient-based approach

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Trachoma is the leading infectious cause of blindness worldwide. Corneal scarring, which causes trachoma-related blindness, occurs when the upper eyelashes are turned inward and rub on the eye (cornea). This is called trichiasis, and if the lid margin turns inward, the term entropion is used. Currently, there are an estimated 8.2 million people with trichiasis and 3.1 million people are blind from trachoma.

A systematic review of population-based trachoma surveys has shown that women are affected by trichiasis approximately twice as often as men. Trichiasis is more common with increasing age; however, in communities with very high levels of trachoma infection, trichiasis can occasionally occur in children.

Persons who develop trachomatous trichiasis (TT) usually need treatment to either surgically turn the eyelashes outward from the eye or to remove one or two in-turning eyelashes which are not central or touching the cornea; the latter is pulling out the in-turned lash or lashes with forceps, a procedure called epilation. Bilamellar tarsal rotation (BLTR) or posterior lamellar tarsal rotation (PLTR) are procedures widely used in trachoma endemic countries to surgically treat TT and are believed to produce comparable results.

In some countries, there are huge numbers of persons with untreated TT, often living in poor and remote communities. For example, in Ethiopia, there are an estimated 1.2 million people with TT who need an operation. However, the number of TT operations currently performed each year in Ethiopia is about 80,000. At this rate, it will take 15 years just to clear the backlog, without considering any new cases which will occur!

There are several reasons for the large numbers of untreated trichiasis patients in endemic countries:

- Patients may be unaware that surgery can help, or they may be afraid of an eye operation; as a result, uptake of TT surgery is often low, even when surgery



John Buchan

In some countries, there is a large backlog of trichiasis operations. NIGER

is provided free of charge. Sometimes, the fear is reinforced by awareness in the community that, at a particular clinic, trichiasis often comes back after surgery, which has a negative impact on uptake.

- Some patients find the cost of travel to seek eye services, or the lack of a companion to go with them, to be a significant obstacle. This is particularly true for women who also have to look after children and the household and cannot afford the time to go for treatment. Sometimes, it is just too great a distance to a health facility, so people will not go for treatment.
- In some situations, services are simply not available, nobody has been trained to perform trichiasis surgery, or the necessary equipment and consumables are not available.

Strategies to address the TT backlog will vary from country to country and setting to setting.

These may include: creating awareness of treatment for trichiasis through health education, including radio programmes; ensuring TT surgery is available at low cost and close to where people with TT live; or conducting enhanced outreach in communities where trachoma is common.

TT surgery can be performed by well-trained ophthalmic nurses, assistants, or doctors. There is good evidence that TT surgery can be done by non-ophthalmologists with comparable results to those of ophthalmologists.

One of the challenges is to encourage the trained TT surgeon to continue to work in rural areas and to equip them so that they are able to perform sufficient TT operations per year to maintain good experience and quality.

Unfortunately, the quality of training of TT surgeons can be variable and

adequate supervision may be lacking, leading to high rates of recurrence of TT after surgery. Surgeons who only do a small number of TT operations each month tend also to have poor surgical outcomes, leading to a vicious cycle of low uptake, low productivity, and poor surgical quality and outcome.

Breaking this cycle requires good planning and a willingness to acknowledge that results can be improved.

In order to develop a TT service it is useful to address various levels of eye care delivery.

National level

- At a national level, it is necessary to identify areas with a high prevalence of TT and to prioritise these areas for TT surgery programmes.
- TT surgeons need to be given good quality training and be adequately equipped. Quality of care is essential. In order to improve the quality of surgery, training of TT surgeons should be standardised and surgeons should be certified using the World Health Organization manual on assessment of trichiasis surgeons.
- Due emphasis should be given to the selection of trainees, the creation of a career pathway, and supervision of TT surgeons.
- TT surgeons must also have adequate supplies of instruments and consumables.
- Services, whether static or outreach, that are staffed with poorly skilled, inadequately supervised TT surgeons can result in poor surgical outcomes and negative publicity for the programme.

District level

- At the health centre level, transport to provide outreach programmes for TT surgery in affected communities is required, together with good provision of consumables to perform the operation: medicines, sutures, dressings, and so on.
- It may be necessary, in some situations, to consider offering incentives (such as a financial reward) to encourage good TT surgeons to work in high-volume TT programmes in remote areas.

Community level

- At the community level, women must be specifically and deliberately targeted for trichiasis surgery. A successful



CPD: Test yourself

trachoma programme requires the involvement of affected communities through their village leaders, women's group leaders, teachers, community health agents, health extension workers, or similar frontline health personnel. Recruiting village women who have had successful TT surgery to raise awareness and encourage others with TT to have the operation has proven to be a successful strategy.

- An outreach programme includes awareness creation in the community about trachoma, seeks community involvement in planning and executing the activities, and tries ultimately to engage the community to such an extent that they become the true owners of the programme. Community involvement and engagement is therefore essential for community ownership and the successful implementation of the full SAFE strategy.
- Community and local health service planners need to decide what contribution community members can make towards the cost of surgery. This will help to achieve sustainable service delivery and avoid a situation where the community either undervalues the service (perhaps because they consider a free service to be inferior) or where a state of dependence is created. Having said that, the cost of surgery should not be so high that poor patients cannot afford it.

In summary, it is essential to consider patients' needs. This will require comprehensive planning at national, district, and community levels to adapt and strengthen the health system to meet these needs. The ultimate aim is for patients with TT to have successful surgery, be satisfied with the result, and be advocates in their communities. Only then will we achieve the ultimate goal of the elimination of blinding trachoma.

Further reading

S Resnikoff, D Pascolini, D Etya'ale et al. Global data on visual impairment in the year 2002. *Bull World Health Organ* 2004;82: 844–51.

EA Cromwell, P Courtright, JD King et al. The excess burden of trachomatous trichiasis in women: a systematic review and meta-analysis. *Trans R Soc Trop Med Hyg* 2009;103(10): 985–92.

Y Adamu, W Alemayehu. A randomized clinical trial of the success rates of bilamellar tarsal rotation and tarsotomy for upper eyelid trachomatous trichiasis. *Ethiopian Medical Journal* 2002;40: 107–14.

D Habte, T Gebre, M Zerihun. Determinants of uptake of surgical treatments for trachomatous trichiasis in North Ethiopia. *Ophthal Epidemiol* 2008;15(5): 328–33.

RJ Bowmann, H Faal, B Jatta et al. Longitudinal study of trachomatous trichiasis in The Gambia: barriers to acceptance of surgery. *Invest Ophthalmol Vis Sci* 2002;43(4): 936–40.

M Melese, W Alemayehu, E Friedlander, P Courtright. Indirect costs associated with accessing eye care services as a barrier to service in Ethiopia. *Trop Med Int Health* 2004;9(3): 426–31.

W Alemayehu, M Melese, A Bejiga et al. Surgery for trichiasis by ophthalmologists versus integrated eye care workers: a randomized trial. *Ophthalmology* 2004;111: 578–84.

SK West, A Bedri, TKT Ton, ES West, SP Mariotti. Final assessment of trichiasis surgeons. WHO: Geneva, 2005.

These continuing professional development (CPD) Test Yourself questions are based on the contents of this issue. You can use the questions to test your own understanding; we hope that you will also discuss them with your colleagues and other members of the eye care team. The questions have been developed in association with the International Council of Ophthalmology (ICO) and are based on the style of the ICO Advanced Examination: www.icoexams.org/exams/advanced

1. Think about how to keep good nursing records. Which of the following statements are true and which are false?		True	False
a	If you make an error in a patient's nursing record, you can correct it using sticky labels or correction fluid.	<input type="checkbox"/>	<input type="checkbox"/>
b	Date and sign each entry, giving your first name.	<input type="checkbox"/>	<input type="checkbox"/>
c	It is acceptable to use some abbreviations in the nursing record.	<input type="checkbox"/>	<input type="checkbox"/>
d	It is better not to write opinions in the nursing record.	<input type="checkbox"/>	<input type="checkbox"/>
2. Think about managing patient records in the clinic. Which of the following statements are true and which are false?		True	False
a	Patient records must be kept safe because they could have commercial value.	<input type="checkbox"/>	<input type="checkbox"/>
b	If you remove a patient file, leave a 'taken by' note with your name and location.	<input type="checkbox"/>	<input type="checkbox"/>
c	Electronic patient records are better than paper records.	<input type="checkbox"/>	<input type="checkbox"/>
d	It is up to individual eye units for how long they keep patient records.	<input type="checkbox"/>	<input type="checkbox"/>
3. Think about auditing to improve patient outcomes. Which of the following statements are true and which are false?		True	False
a	Auditing should not be used to find a guilty person and punish him or her.	<input type="checkbox"/>	<input type="checkbox"/>
b	Surgeons should receive regular feedback about the auditing results.	<input type="checkbox"/>	<input type="checkbox"/>
c	Don't include patients in an audit if a good outcome is unlikely.	<input type="checkbox"/>	<input type="checkbox"/>
d	You should only collect the data you plan to analyse, not just as much data as possible.	<input type="checkbox"/>	<input type="checkbox"/>
4. Think about how to care for and clean optical surfaces. Which of the following statements are true and which are false?		True	False
a	All optical components should be cleaned regularly, whether or not they are visibly dirty.	<input type="checkbox"/>	<input type="checkbox"/>
b	Only some solutions are safe to use on plastic lenses.	<input type="checkbox"/>	<input type="checkbox"/>
c	Cleaning solution can be applied directly onto the lens to be cleaned.	<input type="checkbox"/>	<input type="checkbox"/>
d	The internal optics of laser machines can be handled by anyone who has read the instructions.	<input type="checkbox"/>	<input type="checkbox"/>

ANSWERS

1. a. False. Neither is acceptable. Draw one line through the error and sign it. Everyone makes mistakes in making notes and it is best to be open and honest when it comes to correcting an error which you have made. b. False. Give your full name. c. True. For example, BP and VA are both acceptable. All abbreviations must be commonly understood and in general use. d. True. For example, measure and record visual acuity rather than writing "the patient can now see much better". If you need to write an opinion, state that is what it is, i.e. "Based on the BP heart rate, and general state of the patient, my opinion is that there is improvement today."

2. a. False. Patient information is confidential and many countries have confidentiality legislation which must be followed. b. True. c. False. Both have advantages and disadvantages, depending on your circumstances. d. False. Some countries have legislation specifying the length of time. If there is no such legislation, we recommend that the notes are kept for a minimum of five years for an adult and 15 years for a child.

3. a. True. We all make mistakes. Auditing identifies problems so we can learn from them. b. False. All staff should receive regular feedback. c. False. Doing so will give you unreliable estimates of actual trends in the clinic. All outcomes MUST be recorded for a valid audit. d. True. Collecting excess data makes it confusing and difficult to analyse.

4. a. False. Only clean components which are visibly dirty. b. True. A water-based solution is best, others may cloud the surface. c. False. Apply the solution to the cloth or swab first, or else it can damage the equipment. d. False. Usually, laser optics and the optics of some other high-tech machines have to be handled only by trained technicians.