

New DVD supports trachoma surgery training

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Filming a trichiasis operation for the training DVD. ETHIOPIA

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Trichomatous trichiasis (TT) is the blinding consequence of infective trachoma. It occurs when in-turned eyelashes scrape the cornea, and it affects over eight million people worldwide. It is painful and has been likened to thorns scraping your eyes every time you blink. Lid rotation surgery, which restores the in-turned eyelashes to the proper position, is the mainstay of treatment for TT. Unfortunately, the results of surgery can be poor with many patients developing recurrent trichiasis. There is evidence to suggest that poor surgical technique is responsible for a significant proportion of the recurrent cases. There is a pressing need to strengthen surgical training.

To help strengthen trichiasis surgery programmes, the International Centre for Eye Health (ICEH) has produced a comprehensive TT surgery training DVD, which was filmed in Ethiopia.

Currently, trainee trichiasis surgeons undertake a course of about two weeks, containing both theoretical and practical components. Training programmes usually teach one of the WHO approved

lid rotation procedures: bilamellar tarsal rotation (BLTR) or posterior lamellar tarsal rotation (PLTR). These are described in the WHO trichiasis surgery training and certification manuals. A frequent limitation of training is the lack of exposure to surgical cases. Moreover, many trained surgeons do not operate frequently and most do not receive regular supervision.

The ICEH DVD contains step-by-step teaching videos of both BLTR and PLTR procedures. In addition, there is extensive supporting material, such as the assessment and counselling of patients, setting up an operating theatre, sterilising instruments and post-operative care.

The DVD will be distributed **free of charge**, in bulk, to National Trachoma Control programmes and non-governmental organisations for free distribution in training programmes. In addition, it can be obtained free of charge from TALC (Email info@talcuk.org or see page 30).

It is available in English and French, and was made possible thanks to the support of Band Aid via Fight For Sight, the Carter Center, the International Trachoma Initiative, and Stanton Media.

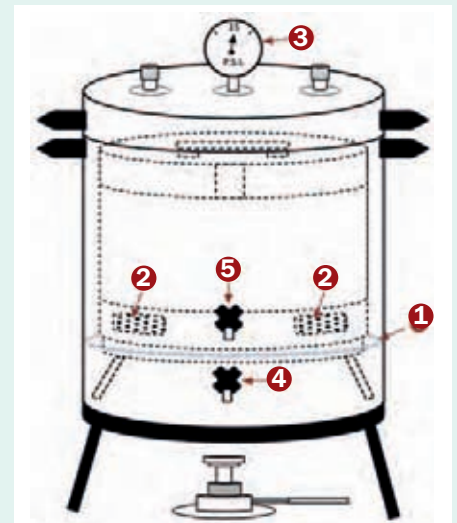
For this issue on instruments and consumables, we have specially adapted the following extract from the DVD. It covers using a steam autoclave to sterilise the instruments used in trachoma surgery.

Using a steam autoclave



The kerosene-burning steam-pressure autoclave (Figure 1) is widely available in trachoma endemic regions. If you use a different model of autoclave you **must** read and carefully follow the instructions.

Figure 1: Diagram of a kerosene-burning steam-pressure autoclave



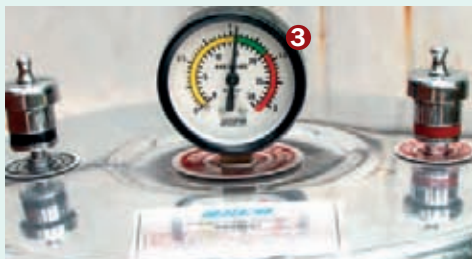
- You should use the autoclave in a clear area. Place the items to be sterilised on a clean table or shelf nearby.
- Pour water (ideally, distilled or demineralised water) into the autoclave up to the level of the top of the tripod stand inside (1).
- Load the drum with the items to be sterilised:
 - All jointed instruments should be placed in the opened or unlocked position.
 - Sharp edges must be protected by gauze or tubing to prevent dulling.
 - The drum should not be packed tightly.



- You must check the drum to ensure that the vents are open. Close the drum lid and lock the vent collar in the open position (2).
- Place the drum in the autoclave and close the autoclave lid by rotating it

clockwise, until it locks into position. You **must** ensure the autoclave lid is correctly closed. If this is not done properly, the autoclave is extremely dangerous when being heated.

- Check both taps are closed and place the autoclave on a kerosene burner. Some autoclaves are designed to be heated using an electrical supply.



ICEH/LS/HTM

- After several minutes, the steam produced causes the pressure to rise in the autoclave. You can see this on the pressure gauge (3).
- When the pressure reaches 15 +/- 1 psi, steam will come out of the pressure valve. You must record the time at which this happens.
- Continue heating for a further 20–25 minutes. Turn off the heat source.
- Open the lower tap, which is the vacuum release tap. All the steam and water will then drain from the autoclave (4). As soon as the water stops draining, close the tap again and leave the autoclave for 5–10 minutes. A further vacuum develops in the autoclave, which will now dry the sterile contents.
- Then open the upper tap (5), which is the steam release tap, allowing all remaining steam to come out. The pressure gauge should now drop to zero psi.
- Only open the autoclave when the pressure is zero. Then remove the drum and immediately close the vents.

Safety

There are some crucial safety points that you must always follow when using an autoclave.

- You should be well trained in autoclave usage and you should be trained and tested periodically for proficiency in the operation of an autoclave. There is a danger of transmitting HIV, hepatitis viruses, or other infectious diseases if the surgical materials are not properly sterilised. There is also a danger of causing serious injury if the autoclave is not used correctly.
- Always ensure there is the correct amount of water in the autoclave before every use.
- You must **not** open the autoclave until the pressure reaches zero.
- Do **not** use an autoclave if parts are malfunctioning; for example, if the pressure does not rise and there is continual escape of steam.
- Do **not** use if you notice wear and tear on the lid gasket or notice leaky taps and valves.



CONTINUING PROFESSIONAL DEVELOPMENT

CPD: Test yourself

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 purchasing instruments and consumables. Which of the following statements are true, and which are false?		True	False
a	Pre-shipment inspections are expensive, but they are worth the cost.	<input type="checkbox"/>	<input type="checkbox"/>
b	Your supplier is usually responsible for inland transportation.	<input type="checkbox"/>	<input type="checkbox"/>
c	When obtaining a quote, always approach more than one supplier.	<input type="checkbox"/>	<input type="checkbox"/>
d	The Incoterm® CIP means that you are responsible for insurance and clearance charges.	<input type="checkbox"/>	<input type="checkbox"/>
2. Think about instrument care and maintenance. Which of the following statements are true, and which are false?		True	False
a	Instruments must be cleaned after each use and lubricated once a week.	<input type="checkbox"/>	<input type="checkbox"/>
b	Using distilled water to clean instruments reduces the risk of corrosion and chemical damage.	<input type="checkbox"/>	<input type="checkbox"/>
c	Regular inspection is important, but it is not necessary to do so under magnification.	<input type="checkbox"/>	<input type="checkbox"/>
d	It is important to keep records of any instruments requiring repair or replacement.	<input type="checkbox"/>	<input type="checkbox"/>
3. Think about supplies management. Which of the following statements are true, and which are false?		True	False
a	You don't have to make a large order to take advantage of bulk discounts.	<input type="checkbox"/>	<input type="checkbox"/>
b	The people who manage supplies are usually specially trained and enjoy working with complex inventory systems.	<input type="checkbox"/>	<input type="checkbox"/>
c	If an eye unit uses between 20 and 30 sutures a month, and they take between 6 and 8 weeks to arrive, you should keep a minimum 40 sutures in stock (and order more whenever the stock reaches 40).	<input type="checkbox"/>	<input type="checkbox"/>
d	The 'first in, first out' approach means that you must use the items with the shortest shelf life first.	<input type="checkbox"/>	<input type="checkbox"/>
4. Think about performing Schirmer's test and about sharpening and adjusting surgical scissors. Which of the following are true and which are false?		True	False
a	When performing Schirmer's test, patients must close their eyes as tightly as possible.	<input type="checkbox"/>	<input type="checkbox"/>
b	Performing Schirmer's test soon after instilling any eyedrops will give a false result.	<input type="checkbox"/>	<input type="checkbox"/>
c	When sharpening surgical scissors, don't be afraid to apply pressure with the sharpening stone.	<input type="checkbox"/>	<input type="checkbox"/>
d	When sharpening surgical scissors, cover the full length of the cutting surface with each stroke.	<input type="checkbox"/>	<input type="checkbox"/>

ANSWERS

1. a. False. If your country does not require one, only consider a pre-shipment inspection (PSI) if you are making a large order. A PSI may speed up clearance on arrival, but will increase the price by 2-3%. You should decide whether the cost is worth it. b. False. You are responsible, unless you have chosen for the items to be couriered to you (i.e., door-to-door delivery). c. True. d. False. You are responsible for clearance, but marine insurance is the seller's responsibility.
2. a. False. Instruments should be cleaned and lubricated after each use. b. True. c. False. Use magnification whenever possible to help you identify instruments that must be repaired or serviced. d. True. This allows you to plan ahead so you can negotiate a discount based on projected demand. b. False. Make sure your inventory systems are easy and convenient to use. c. False. Stock may take as long as 8 weeks to arrive (around 2 months), and you may use as much as 30 sutures a month, so keep enough to last until then (2 x 30 = 60). d. True.
3. a. True. You can negotiate a discount based on projected demand. b. False. Make sure your inventory systems are easy and convenient to use. c. False. Stock may take as long as 8 weeks to arrive (around 2 months), and you may use as much as 30 sutures a month, so keep enough to last until then (2 x 30 = 60). Do not apply too much force. The repetition of the movement is what sharpens the scissors. d. True.
4. a. False. Patients must close their eyes as tightly as possible. b. True. c. False. Do not apply too much