

The occasional slit lamp examination

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In a corner of your emergency department, more often than not covered in a white shroud, sits that most intimidating of medical instruments — the slit lamp. When you really need it, your fondest hope may be that the last person to use it knew what he or she was doing, and that the various swinging bits were left in their proper positions. Wishful thinking would guarantee that the light source is set to the right colour, shape and intensity, and the beam adjusted so that when you turn it on it will illuminate the object of your interest, and not some distant spot in the middle of your patient's forehead.

This then is a generic primer on the use of a slit lamp. The one illustrated here is the one the author has on hand, but the techniques are sufficiently basic that they should apply to a variety of instruments. The goal is to review the steps that get you to an appropriate illumination of your patient's eye with a minimum of fuss. It does not inspire confidence in your patient (with whom, after all, you are eyeball to eyeball) to see you fumble with the switches as you prepare to approach the foreign body in her eye with a very sharp needle.

Indications

Common indications for slit lamp use include (but are not limited to) evaluation of corneal abrasions, removal of foreign bodies and rust rings, and evaluation of the anterior compartment for inflammation.

Step 1

Light intensity (5v, 6v or 7.5v) can be chosen when you turn the lamp on (Fig. 1). For most purposes the lowest setting is adequate.



Fig. 1. Choose the setting

Step 2

The patient should be seated comfortably, with her chin in the chin rest and forehead firmly pushing against the headrest. The entire structure (as well as seat height) can be adjusted to accommodate any patient. From this moment on the patient should be asked not to move. Using the chin rest adjustment knob, align her eyes with a mark on the headrest support. In this case it's a black mark on the pillar at the patient's left (Fig. 2; see arrow).



Fig. 2. Position the patient

Step 3

Adjust the light by using the joystick to bring the structure of interest into focus: the joystick twists (to move the light source up and down) and moves backward and forward and from side to side. The light source can be easily moved through a vertical distance of 2 to 3 cms to fully explore the eye.

Fig. 3a: The knob visible at the right rear of Fig. 3a locks and unlocks the base. It is generally left unlocked throughout the procedure, but is locked for security when the slit lamp needs to be moved to another location.



Fig. 3a. Adjust height of the light

Fig. 3b: Set both the lenses to "0" and leave them that way. If you wear glasses, wear them during the examination. This will ensure that the optics are set to your prescription. Adjust the distance between the lenses to suit your eyes.



Fig. 3b. Focus the lens

Fig. 3c: By moving the J-shaped bar the light source can be swung through almost 180°. For most purposes position the bar so that the light shines from the temporal side of the eye being examined, at approximately a 45° angle. Once set, it does not usually need to be moved until the opposite eye is examined. The 2 knobs at the base of the bar govern the width of the slit. Use the one easiest to reach.

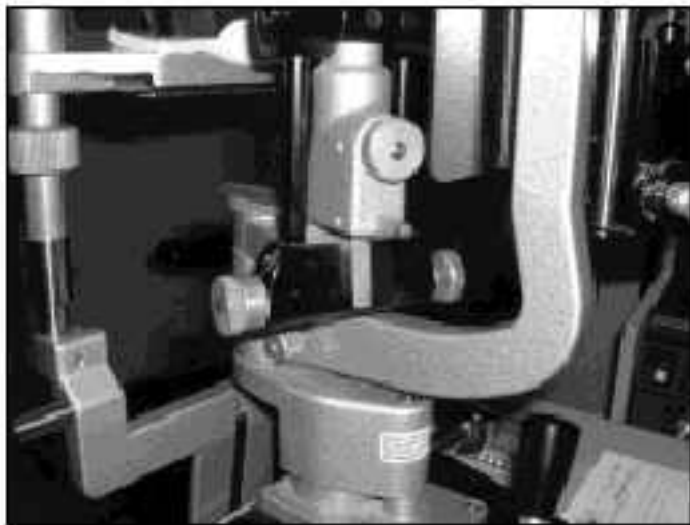


Fig. 3c. Angle the light

Fig. 3d: There are 3 adjustments illustrated here. The small white horizontal lever (top left) selects the colour of the light. For most purposes it can be left at the plain white-light setting. The central white knob controls the height of the slit, and on this machine can also be twisted to select a cobalt-blue filter. This whole structure can also be swivelled (there is a click when it is in its central position), and this causes the slit to become angled. This is rarely required.



Fig. 3d. Choose colour and slit height

Step 4

The patient should remain still, focusing (in this case) on the examiner's right ear (Fig. 4). The eyelid can be held up with the left thumb, and the instrument brought into the field of vision with the right hand braced, if necessary, on the patient's nose. The eye should be well frozen.

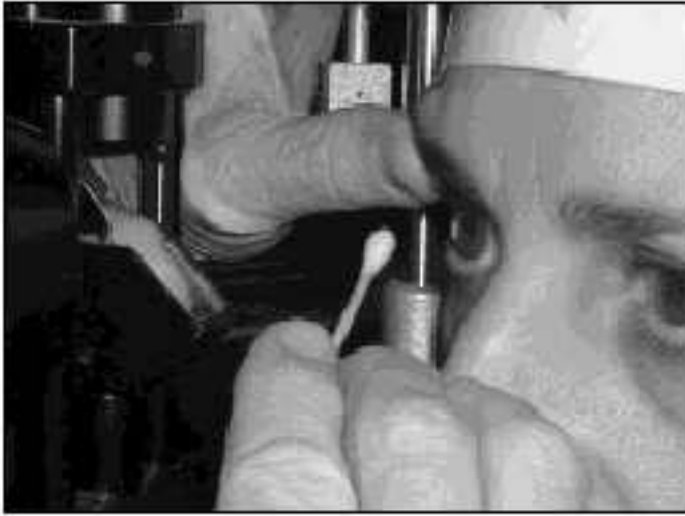


Fig. 4. Foreign body removal

Summary

Familiarity with this instrument will breed, not contempt, but confidence, and your patients will benefit by more thorough and complete examinations. In addition, the specialists to whom you refer will also benefit from a better description of the pathologies on which they have been asked to consult.

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