Practice anaesthetic equipment lecture

LARYNGOSCOPES

BY

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قسم التخدير..... المرحلة الثانية

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Laryngoscopes

These devices are used to perform direct laryngoscopy and to aid in tracheal intubation.

Components:

1-The handle houses the power source (batteries) and is designed in different sizes.

2- The blade is fitted to the handle and can be either curved or straight. There is a wide range of designs for both curved and straight blades.

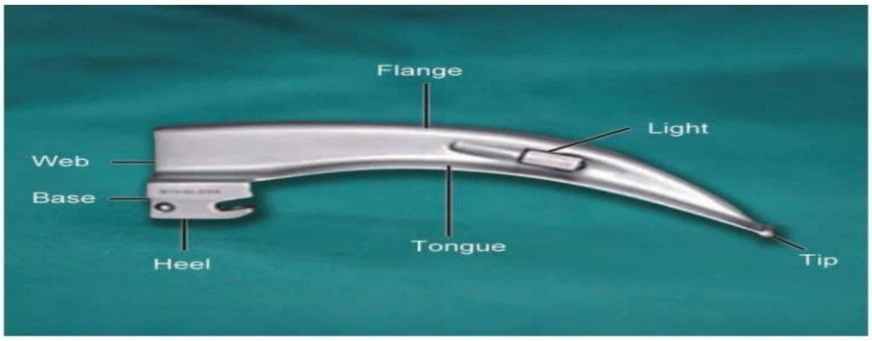


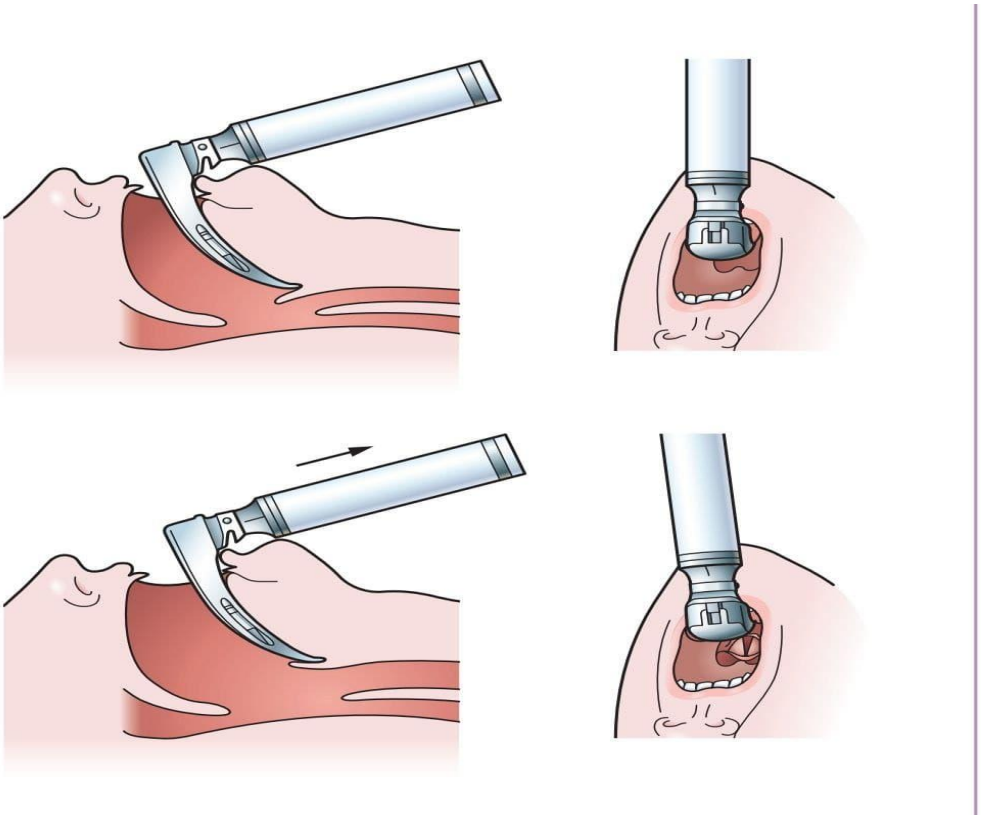
Fig. 3 Parts of curved blade

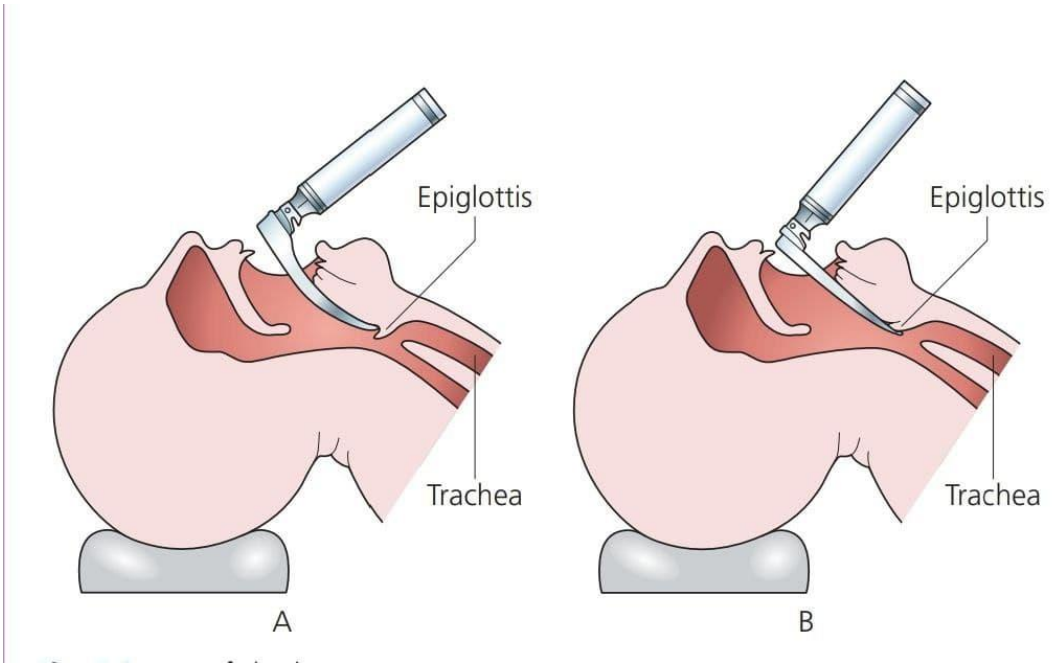
Fig. 4 Parts of straight blade

Mechanism of action:

Usually the straight blade (such as miller bades)is used for intubating neonates and infants. The blade is advanced over the posterior border of the relatively large, floppy V-shaped epiglottis which is then lifted directly in order to view the larynx . There are larger size straight blades that can be used in adults.

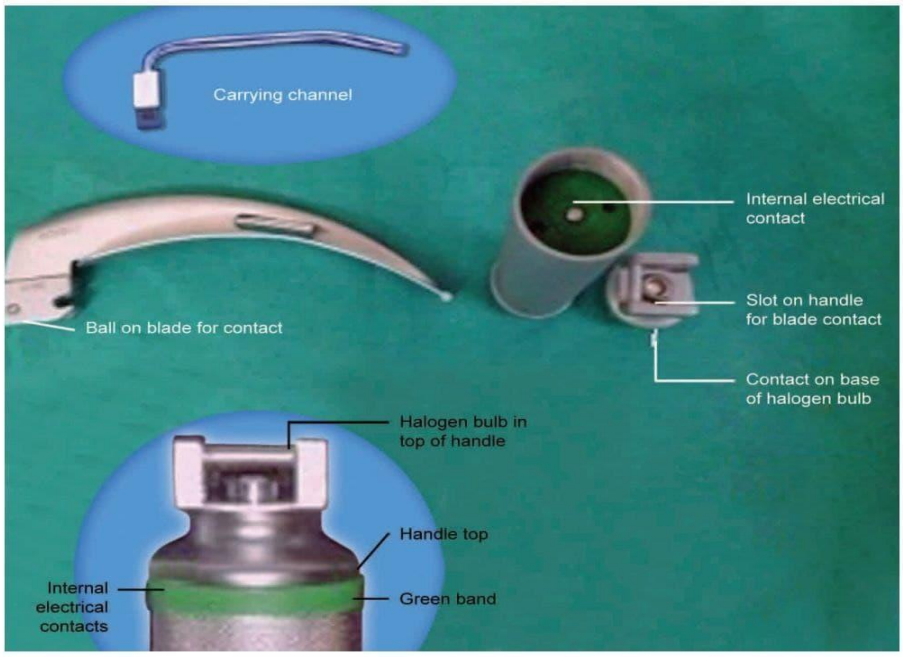
2- The curved blade (Macintosh blade) is designed to fit into the oral and oropharyngeal cavity. It is inserted through the right angle of the mouth and advanced gradually, pushing the tongue to the left and away from the view until the tip of the blade reaches the vallecula. The blade has a small bulbous tip to help lift the larynx. The laryngoscope is lifted upwards elevating the larynx and allowing the vocal cords to be seen. The Macintosh blade is made in four sizes.

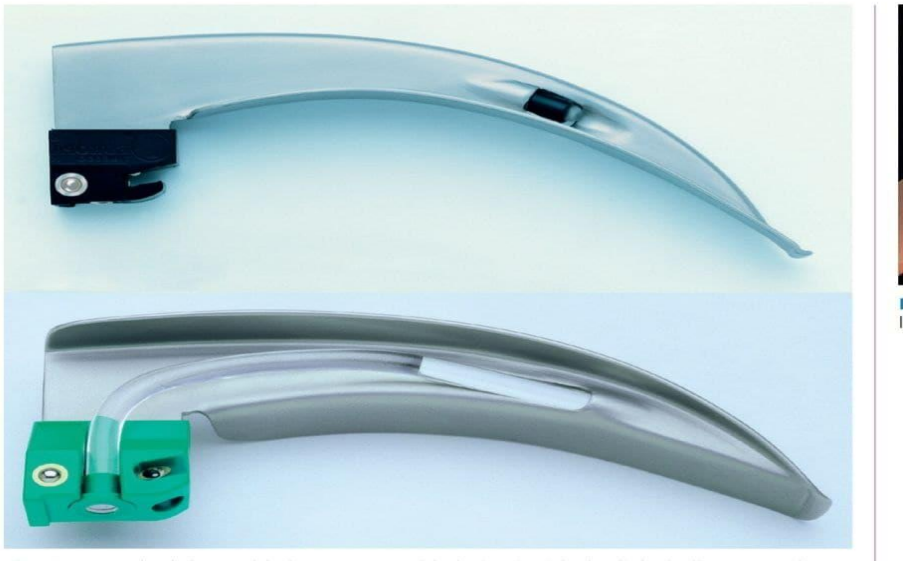




In the standard designs, the light source is a bulb screwed on to the blade and an electrical connection is made when the blade is opened ready for use.

In more recent designs, the bulb is placed in the handle and the light is transmitted to the tip of the blade by means of fiberoptics .Opening the blade turns the light on by forcing the bulb down to contact the battery terminal.

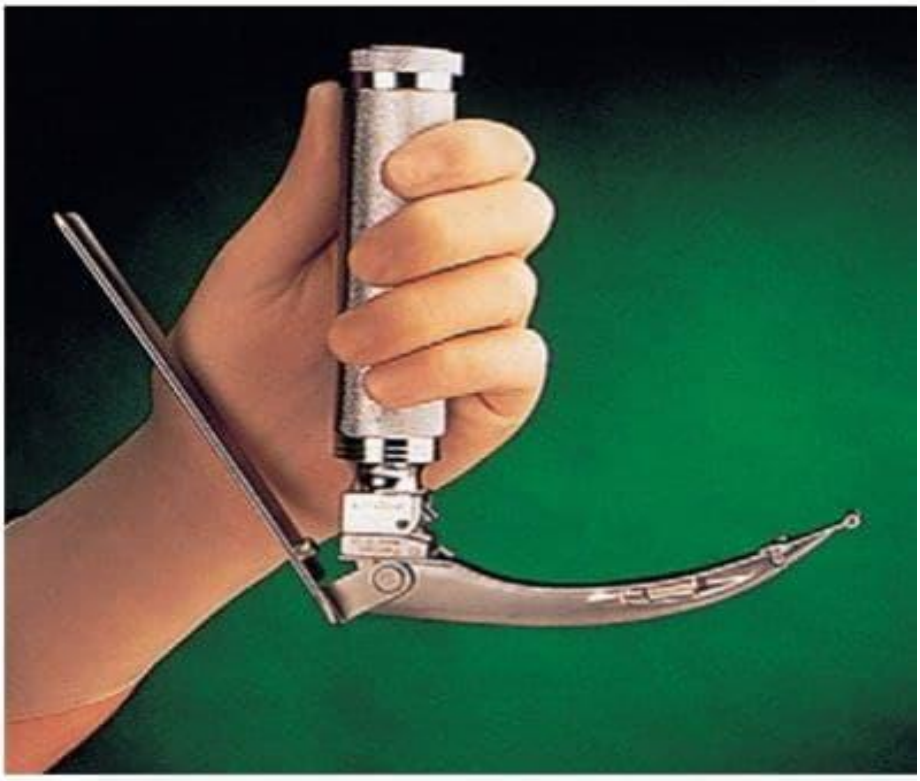


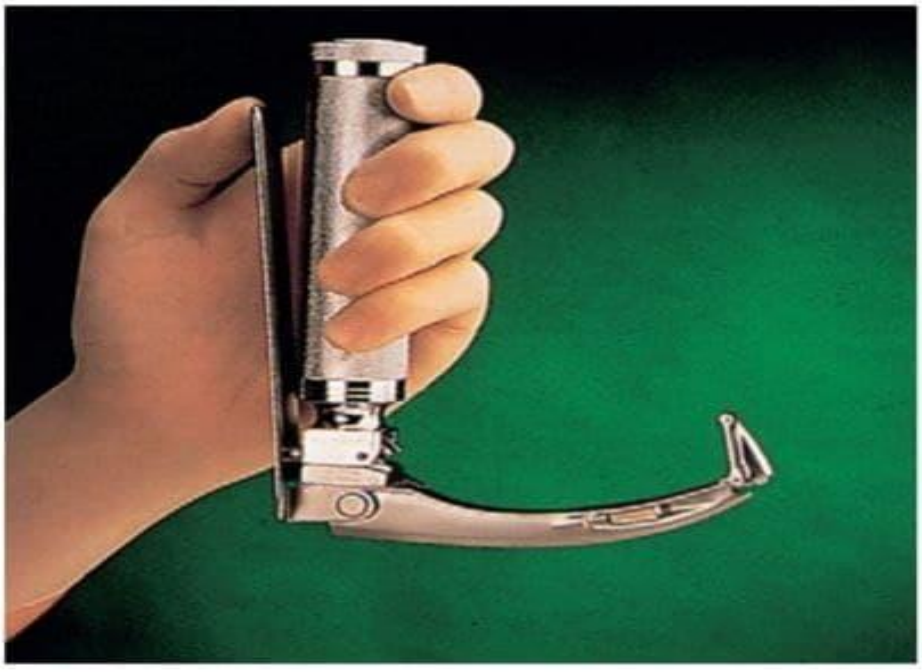


The McCoy laryngoscope is based on the standard Macintosh blade. It has a hinged tip which is operated by the lever mechanism present on the back of the handle. It is suited for both routine use and in cases of difficult intubation.

A more recent McCoy design has a straight blade with a hinged tip.

Both the curved and the straight McCoy laryngoscopes use either a traditional bulb in the blade or a lamp mounted in the handle which fibro -optically transmits the light to the blade.





Problems in practice and safety features:

1-The risk of trauma and bruising to the different structures (e.g. epiglottis) is higher with the straight blade.

2. It is of vital importance to check the function of the laryngoscope before anaesthesia has commenced. Reduction in power or total failure due to the corrosion at the electrical contact point is possible.

3. Patients with large amounts of breast tissue present difficulty during intubation. Insertion of the blade into the mouth is restricted by the breast tissue impinging on the handle. To overcome this problem, specially designed blades are used such as the polio blade. The polio blade is at about 120° to the handle allowing laryngoscopy without restriction. A Macintosh laryngoscope blade attached to a short handle can also be useful in this situation.

4. To prevent cross-infection between patients, a disposable blade is used. A PVC sheath can also be put on the blade of the laryngoscope.

5. Laryngoscope handles must be decontaminated between patients to prevent cross-infection

Fig. 37 Tull (suction) laryngoscope

Thank you