

Laryngoscopes and tracheal intubation equipment

Laryngoscopes

These devices are used to perform direct laryngoscopy and to aid in tracheal intubation. They can also be used to visualize the larynx or pharynx for suctioning, removal of foreign body, placing of nasogastric tube and throat packs.



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

mechanism of action

1. Usually the straight blade 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

Larger size straight blades 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 five sizes:

neonate (0), infant (1), child (2),

adult (3) and large adult (4).

3. the bulb is placed in the handle and the light is transmitted to the tip of the blade by means of fibro-optic (color-coded green) Opening the blade turns the light.

Fibro-optic intubating laryngoscope

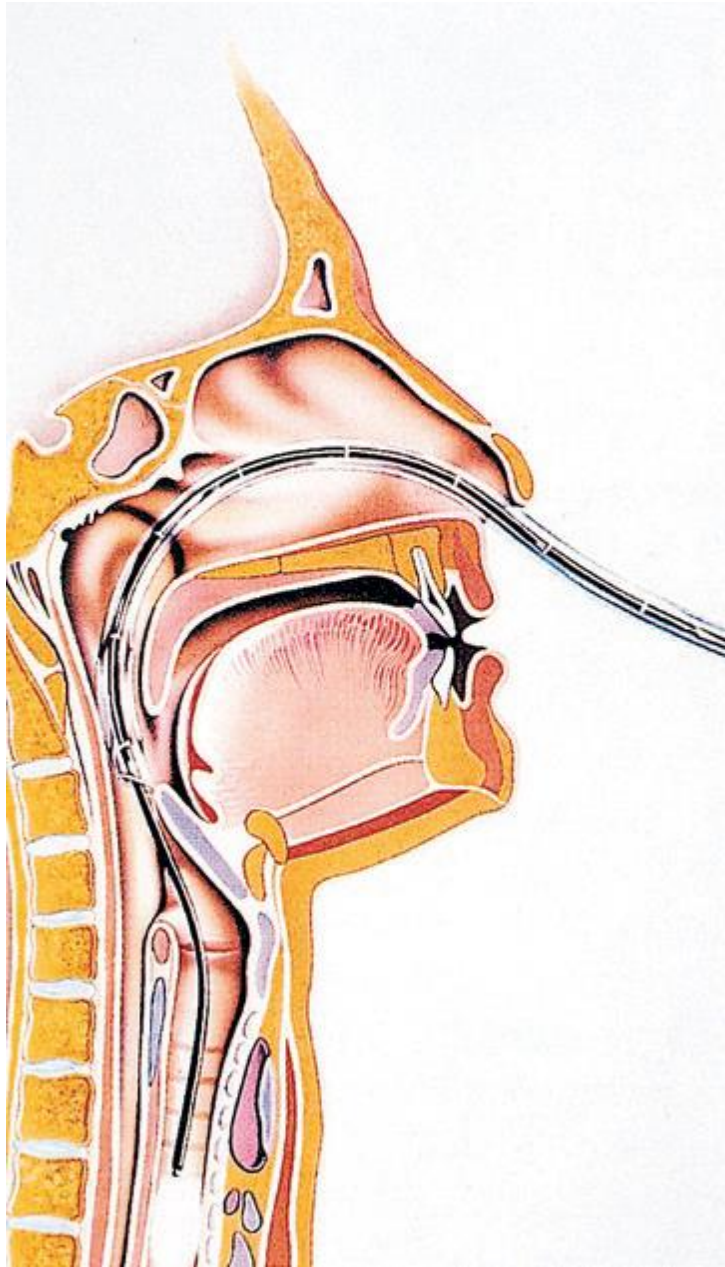


These devices have revolutionized airway management in anaesthesia and intensive care. They are used to perform oral or nasal tracheal intubation and to evaluate the airway in trauma, tumor, infection and inhalational injury, to confirm tube placement

(tracheal, endo-bronchial, double lumen or tracheostomy tubes) and to perform tracheobronchial toilet

Components

1. Control unit which consists of the following:
 - a. tip deflection control knob (the bending angle range is 60–180 degrees in the vertical plane)
 - b. eye piece
 - c. diopter adjustment ring (focusing)
 - d. suction channel which can also be used to insufflate oxygen and administer local anaesthetic solutions.
2. The flexible insertion cord consists of bundles of glass fibers. Each bundle consists of 10 000–15 000 fibers nearly identical in diameter and optical characteristics.
3. Light-transmitting cable to transmit light from an external source
4. Other equipment may be needed, e.g. endoscopic face mask, oral airway, bite block, defogging agent



Problems in practice and safety features

1. The intubating fibro-optic laryngoscope is a delicate instrument that can easily be damaged by careless handling. Damage to the fiber bundles results in loss of the image and light in individual fibers which cannot be repaired.

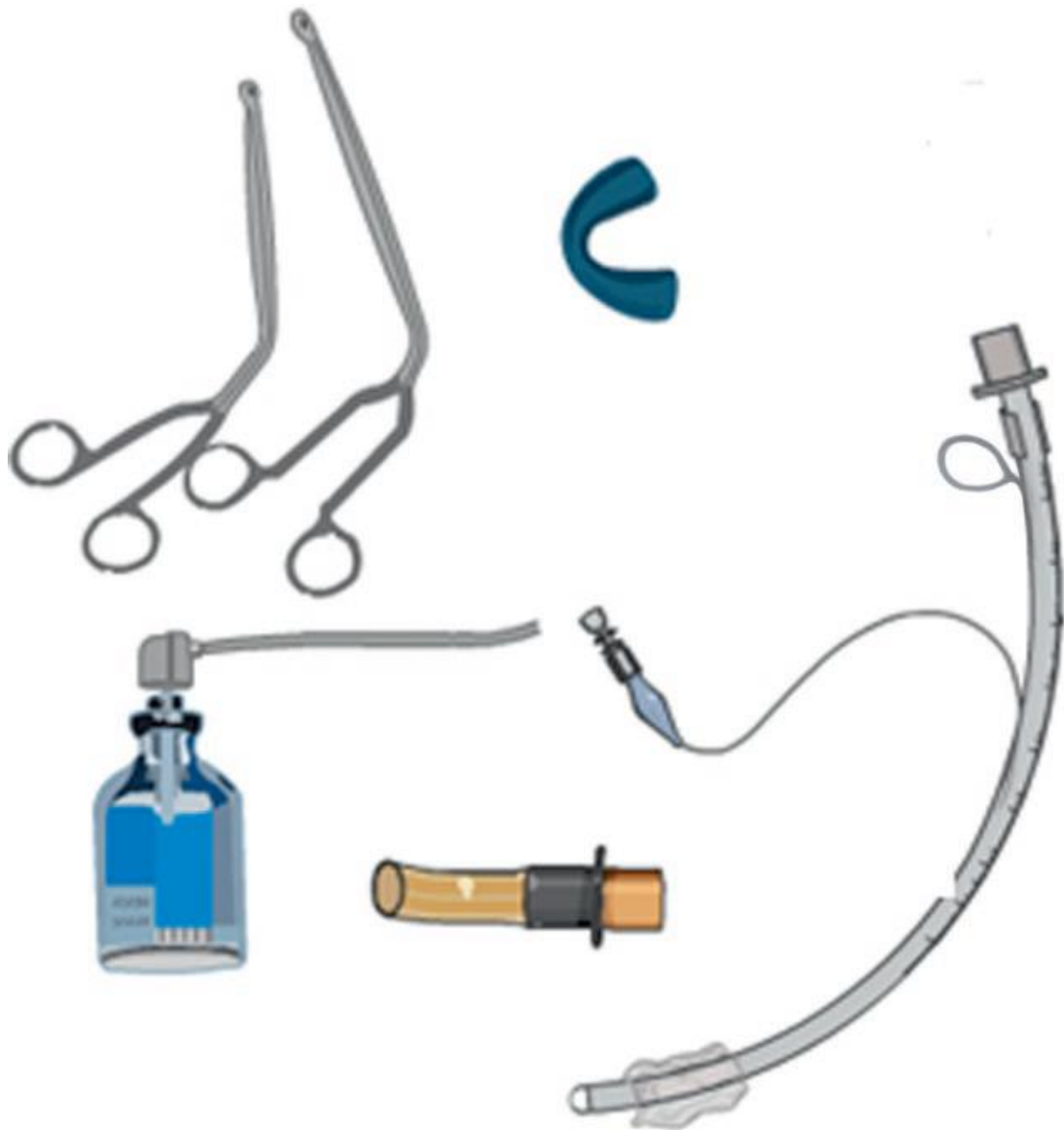
2. The laryngoscope should be cleaned and dried thoroughly as soon as possible after use.

Magill forceps

These forceps are designed for ease of use within the mouth and oropharynx. Their curved design allows manipulation in the oropharynx without the operator's hand being in line of sight. Magill forceps come in small or large sizes. During tracheal intubation, they can be used to direct the tracheal tube towards the larynx and vocal cords.

Care should be taken to protect the tracheal tube cuff from being damaged by the forceps.

Other uses include the insertion and removal of throat packs and removal of foreign bodies in the oropharynx and larynx



Thank you