

## **Laryngoscopy**

### **WHAT IS LARYNGOSCOPY?**

This is the name given to a technique for examining (and possibly treating) the larynx ("voice box"), and surrounding tissues in the throat and upper airway. The viewing instrument, the laryngoscope, consists of a long tube fitted with an eyepiece, lenses, and its own fiberoptic light source that illuminates the field of vision. The laryngoscope may be flexible or rigid and is introduced through the nose or mouth. The procedure may be part of an endoscopic examination of the airway or digestive tract. Fiberoptic laryngoscopy is usually carried out in a daycare facility or in the hospital special procedures room. A local anesthetic is used for fiberoptic endoscopy, although a child may be given a sedative as well. Rigid endoscopy is performed under general anesthesia.

### **WHY IS IT PERFORMED?**

Fiberoptic laryngoscopy provides a direct view of the larynx and adjacent structures. In ENT medicine, it is invaluable in the investigation, diagnosis, and assessment of the many conditions. Inspection by flexible laryngoscopy is indicated when there is hoarseness, breathing difficulties, or a severe sore throat. Direct viewing of the larynx is needed to confirm a diagnosis of, for example, paralysis of the vocal cords; arthritis of the supporting structures (cricoarytenoid arthritis); benign growths such as polyps; lumps in the neck; or cancer of the larynx. When biopsy (tissue sampling) is required for laboratory analysis, it is carried out by means of a rigid laryngoscope. Infants and children may suffer from a number of congenital and acquired defects that are diagnosed by fiberoptic laryngoscopy, including: laryngomalacia ("floppy" larynx); subglottic stenosis (narrowing of the throat at the larynx); vascular rings (abnormalities of the major blood vessels of the heart and lungs); congenital laryngeal webs (membranous covering of the vocal cords); and laryngocele (cyst). Laryngoscopy may be performed as a therapeutic procedure, when the rigid endoscope is used. This equipment may be combined with an operating microscope and laser to remove polyps and cysts from the vocal cords.

### **RISKS AND BENEFITS**

Flexible fiberoptic laryngoscopy permits rapid and safe diagnosis of a wide range of conditions without the need for more invasive procedures or general anesthesia. In therapeutic use, too, rigid fiberoptic laryngoscopy offers a safe, effective alternative to surgery. The risks of flexible laryngoscopy are low. Besides the usual risks of general anesthesia, risks of rigid laryngoscopy include perforation; dislodging of a loose tooth or crown.

### **THE PROCEDURE:**

#### **PREPARING FOR LARYNGOSCOPY**

You will be asked to come to the hospital early on the day of the procedure, accompanied by a friend or relative. You should take nothing by mouth for at least four hours beforehand. You

may be asked to undress and put on a hospital gown. If you are having a general anesthetic, you will be given a premedication injection to relax you about an hour before the procedure is due to begin.

### **FLEXIBLE FIBEROPTIC LARYNGOSCOPY**

In the special procedures room you will be seated, your head supported, and the doctor will work facing you. The nasal passage may be numbed with a local anesthetic spray, and an anesthetic lozenge or spray to the back of the throat is given to suppress the gag reflex. If the patient is a child, the nose may be packed for a few minutes with cotton saturated with local anesthetic solution. When the anesthetic has taken effect, the tip of the fiberoptic laryngoscope is gently guided along the floor of one nostril. You will be encouraged to breathe through your nose. As the instrument approaches the larynx, the vocal cords are sprayed with a local anesthetic. When this has taken effect, the instrument can be passed between them into the trachea. You may cough and experience shortness of breath until you get used to the sensation. To help your breathing you may be given supplementary oxygen through a face mask during the procedure. You may be asked to speak so that the movement of the vocal cords can be studied. After thorough examination of the larynx the laryngoscope is slowly withdrawn. The examination is at an end when the fiberoptic laryngoscope is removed. You will be helped out of the chair and should sit quietly for a while.

### **RIGID FIBEROPTIC LARYNGOSCOPY**

In the special procedures room the doctor will work with you lying, anesthetized, on your back with shoulders raised slightly and neck extended. A mouth guard is inserted to protect your teeth and the instrument. The doctor positions him or herself behind you and guides the laryngoscope towards the larynx. After the larynx has been examined thoroughly, treatment is given through the instrument as required. When this is completed, the laryngoscope is carefully withdrawn. You will be moved to the recovery area briefly for observation as you come out of the anesthetic.

### **AFTER THE PROCEDURE**

You will be asked to rest for at least an hour or two and your vital signs (temperature, pulse, blood pressure, and respiration) will be checked at frequent intervals. It takes time for any local anesthetic to wear off, and you must not eat or drink anything until sensation has returned fully. If a biopsy was obtained, you may be instructed not to use your voice at all for around 48 hours to give the vocal cords time to heal.

### **GOING HOME**

Your nose and throat may feel sore for some time. Before you leave, you may be given an appointment to attend for a further consultation. You will be advised to go straight home and rest. Especially if you have had a general anesthetic you should not drive for 24 hours.

### **POSSIBLE COMPLICATIONS**

If there has been any damage to the larynx or airway, you may be admitted to the hospital overnight for observation. Laryngospasm (muscle spasm) or edema (tissue swelling) may cause difficulty in breathing or swallowing. You may be given extra oxygen briefly to make you more

comfortable or you may be admitted to the hospital for observation.

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