

## Larynx explained

The larynx, or voice box, sits at the back of the throat, above the windpipe (trachea). It is supported by rings of cartilage, which form the bump of the Adam's apple. The vocal cords are stretchy bands of tissue attached to the inside of the larynx. Air passing in and out of the lungs is pushed through these cords. Movements of the cartilage allow the vocal cords to contract or relax, which alters the pitch of sounds. Other factors that influence the qualities of a person's voice include the nose, mouth, tongue, jaw and throat.

The larynx also contains an important flap or valve called the epiglottis, which covers the trachea whenever we swallow to prevent foods or liquid entering the lungs. Various infections and disorders, such as cancer, can affect the larynx. The usual symptom is hoarseness.

### Symptoms of larynx disorders

Symptoms of larynx disorders depend on the cause, but may include:

- Hoarseness
- Loss of voice
- Pain in the throat
- A sensation of raw tenderness at the back of the throat
- A constant urge to clear the throat
- Breathing difficulties.

### Acute laryngitis

Acute laryngitis is characterised by the sudden inflammation of the larynx, caused by a viral infection such as the common cold. Overusing the voice, for example, yelling or singing, or irritation from cigarette smoke can also cause the larynx to redden and swell.

### Chronic laryngitis

Persistent hoarseness is almost always caused by either irritation from cigarette smoke or voice abuse, such as frequent shouting. Prolonged exposure to air pollutants, such as dust, can also irritate the larynx and cause chronic laryngitis.

### Croup

Croup is a form of viral laryngitis specific to children, usually aged between six months and six years. The virus produces inflammation and swelling of the larynx and associated structures, such as the trachea and the airways leading to each lung. The typical symptoms include:

- A cough that sounds like a barking seal
- Mild fever
- Noisy breathing that is worse at night
- Breathing difficulties, due to the swelling.

In the severe form of croup, certain areas (such as the mouth or fingertips) may turn blue from lack of oxygen (cyanosis). Sometimes, a bacterium can infect the larynx, causing a similar but life-threatening illness called epiglottitis. The child will usually have a high fever and look very unwell. An inhaled foreign body may also produce a croup-like illness.

### Ulcers

Certain sounds are made by abruptly lowering the epiglottis onto the trachea. If this is performed repeatedly, while shouting or straining the voice, an ulcer can develop from the abrasion of the epiglottis against surrounding tissue.

## Polyps, nodules and growths

Small lumps and bumps on the vocal cords can be caused by chronic voice abuse (such as yelling) or prolonged exposure to irritants like cigarette smoke. Any growths need thorough investigation to make sure they are not cancerous.

## Cancer of the larynx

The two main types of cancer of the larynx include squamous cell carcinoma and its variant, verrucous carcinoma. Most cases of cancer are directly linked to cigarette smoking. Initial hoarseness is followed by a dry cough and, sometimes, coughing up blood. Eventually, the person experiences breathing and swallowing difficulties.

## Diagnosis of larynx disorders

The larynx can be viewed through the open mouth. Diagnosis methods depend on the disorder, but may include:

- Physical examination
- Neck x-ray and fluoroscopy
- Laryngoscopy
- Biopsy.

## Treatment of larynx disorders

Treatment depends on the cause, but may include:

- **Acute laryngitis** – resting the voice, pain-killing medications and steam inhalation
- **Chronic laryngitis** – speech therapy, resting the voice, steam inhalation and, if necessary, antibiotics to clear up any infection
- **Croup** – fluids, paracetamol, rest and possibly steam inhalation are usually all that is required. When there is breathing difficulty, a short course of corticosteroid is commonly used. In severe cases of breathing difficulty, the child may need to be hospitalised, given nebulised adrenaline and – sometimes – intubated (a tube is placed in the airway to overcome the blockage). Inhaled foreign bodies are usually removed by bronchoscopy in hospital, under general anaesthetic
- **Ulcers** – resting the voice for at least six weeks, and learning to treat the vocal cords with respect to avoid recurrence
- **Polyps, nodules and growths** – the lumps and bumps are surgically removed. Nodules in children can sometimes be treated solely with voice therapy, which teaches them how to use their voice without unnecessary strain
- **Cancer** – radiation therapy and surgery, including the partial or complete removal of the larynx (laryngectomy). In order to speak after undergoing a laryngectomy, the person can either learn to swallow and exhale air through their oesophagus, or use an electro-larynx device held against the throat.

## Where to get help

- Your doctor
- NURSE-ON-CALL Tel. 1300 60 60 24 – for expert health information and advice (24 hours, 7 days)
- Ear, nose and throat specialist
- Cancer Council Victoria Information and Support Service Tel. 131 120

## Things to remember

- The larynx (voice box) contains the vocal cords, which allow speech.

- Disorders of the larynx include laryngitis, croup, growths and cancer.
- A common irritation to the larynx is voice abuse, which includes screaming, singing or shouting too much.

**This page has been produced in consultation with, and approved by:**

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