

Laryngitis:

The Inflamed Voicebox

What is laryngitis?

➤ **Laryngitis= Larynx (voice box) + -itis (inflammation)**

It is a disease affecting the upper part of our airway tract. As depicted above, laryngitis is described as inflammation of the larynx, which gives rise to a typical symptom- hoarseness of voice. In laryngitis, the inflammation of the internal lining of larynx results in swelling and irritation around the vocal cords, causing pain and hoarseness.

Structurally, the larynx is a hollow muscular organ present in our throats, which forms the beginning of the windpipe (trachea), and it contains the speech producing "vocal cords". Larynx serves a number of important functions, like-

1. assist in breathing,
2. production and modulation of voice including its volume and pitch, (hence called the **voicebox**)
3. prevents passage of any food particle or a foreign body into the windpipe.

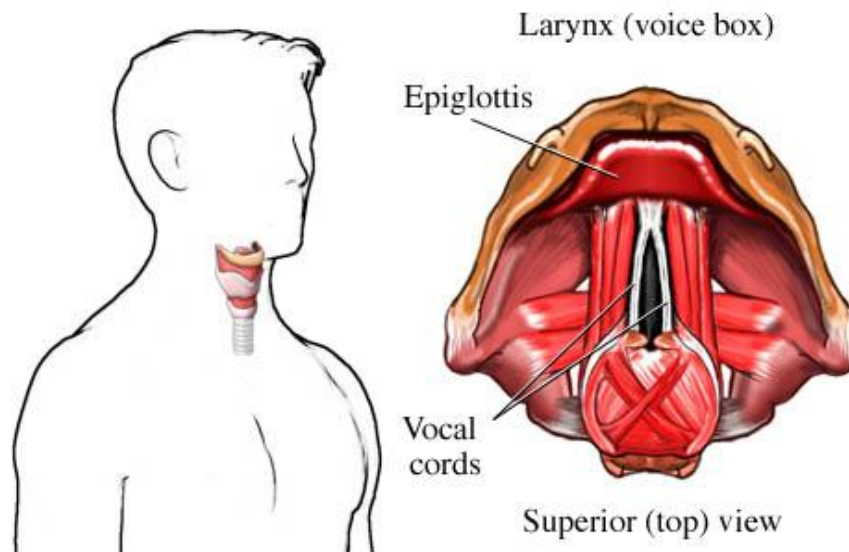


Fig. 1 Location and Internal structure of larynx

[adopted from: http://img.webmd.com/dtmcms/live/webmd/consumer_assets/site_images/media/medical/hw/n1393.jpg]

What are the types of Laryngitis?

Based on the duration of symptoms, laryngitis is classified as *acute* and *chronic*.

- **Acute laryngitis** is limited to less than 3 weeks of duration and has following characteristics-
 - Symptoms develop suddenly
 - Often heals by itself, by resting the voice and consuming plenty of fluids

- Mostly affects children (less than 10 years)
- **Chronic laryngitis** develops gradually and lasts for more than 3 weeks. Most commonly seen in elderly people, it is observed in the settings like-
 - presence of environmental factors like cigarette smoking,
 - infections like tuberculosis, or
 - some respiratory allergies.
 - The most common cause of chronic laryngitis is, however, acid reflux.

What causes laryngitis?

Depending on a number of factors like age, occupation, presence of other diseases, causes of laryngitis vary greatly. The most common causes of acute and chronic laryngitis are summarized in the following table-

Disease	Causes	Examples
<i>Acute Laryngitis</i> (usually affects children and young adults)	*Infectious (Communicable)	*Viral (rhinovirus, influenza virus-most common)
		Bacterial (may follow after the viral infection)
		Fungal (uncommon- less than 10% of cases)
	Non-infectious	*Vocal misuse (Excessive yelling or shouting)
		Exposure to harmful chemicals (e.g. strong acid fumes, pollutants, etc.)
		Trauma (caused during intubation or any other medical procedure)
<i>Chronic Laryngitis</i>	*Acid Reflux	Gastroesophageal reflux disease
	Vocal misuse	Singers, public speakers (long term use of voice at abnormal loudness or pitch)
	Environmental factors	Cigarette smoking, chronic use of asthma inhalers (cause chemical irritation of vocal cords)
	Allergies & Autoimmune diseases	Sarcoidosis, Wegener's disease (uncommon causes)
	Long-term infections	Tuberculosis

*- most common causes in the particular category

Table.1 Causes of Laryngitis

There are certain factors that increase the risk of developing laryngitis-

1. A sore throat (upper respiratory tract infections)
2. People who use their voice with a high degree of manipulation, like singers, public speakers, and even teachers
3. Patients who have acid reflux disease
4. Smoking, both active and passive, inhalation of toxic fumes on a long term basis, or chronic use of inhalers

How does it spread?

Only infectious acute laryngitis is contagious can spread via following routes-

- By breathing in infectious droplets from coughing and sneezing.
- By direct salivary contact like kissing
- By using contaminated objects like towels, spoons, etc.

The non-infectious types of laryngitis are not communicable in any form.

What happens in laryngitis?

Laryngitis, being an inflammatory disease, involves all the classical signs of inflammation around vocal cords, i.e., swelling, redness, pain and loss of function. The chain of events that result in the development of laryngitis is described below:



Fig. 2 Course of Laryngitis

Once the hoarseness occurs, the patient finds it difficult to speak and tries even harder to "force" sound out. And that causes damage to the vocal cords resulting in complications like vocal polyps and cysts.

How does it present?

The classical symptom that occurs in all forms of laryngitis is "***hoarseness of voice***" usually accompanied by pain or discomfort in the throat. Other benign symptoms include-

- Dry cough
- Sore throat
- Difficulty in swallowing
- Increased saliva formation
- Fever (in infectious cases)

However, there are a number of red flag signs, whose appearance call for immediate medical attention-

- Difficulty in breathing or shortness of breath, especially in children or elderly
- **Stridor**, a noisy, high-pitched breathing sound seen in small children
- High fever (>103°F) or a fever that does not go away
- Trouble during swallowing, or excessive drooling in children

Your doctor can diagnose laryngitis on the basis of your symptoms and certain signs seen during the physical examination, which are-

- Swollen lymph nodes around neck
- *Indirect laryngoscopy*- using a small mirror and a light, your doctor will inspect your throat for redness inside larynx and swelling around vocal cords.

No other diagnostic test is usually required for acute cases. Sometimes a biopsy may be indicated in chronic laryngitis without apparent cause.

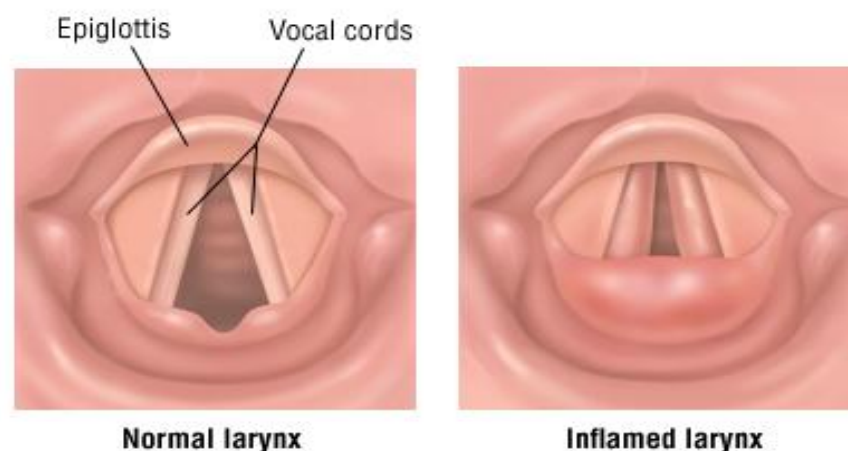


Fig. 3 Laryngoscopic view

[adopted from: <https://www.drugs.com/health-guide/images/205316.jpg>]

What is the treatment?

Acute cases of laryngitis are mostly self-limited and they resolve on their own within 2 to 3 weeks. It can be managed at home with simple remedies like-

- Resting the voice as much as possible
- Steam inhalation
- Consuming plenty of warm fluids
- Restricting solid diet

Treatment with antibiotics or other medications is reserved only for a few cases. For example, if your doctor suspects a bacterial infection, he might prescribe a course of appropriate antibiotics after a throat swab culture. Sometimes steroids are used in patients who desire quick recovery, however, it should be at best, avoided.

In a case of chronic laryngitis, it is prudent to figure out the root cause before starting any medication.

What to do and what not to do?

If you, or someone close to you, have laryngitis then you need to be careful about a number of things that you should follow or avoid in order to recover quickly.

Do's --

- Rest your voice as much as you can
- Rest your body as well to hasten the recovery
- Drink warm liquids as often as possible, as they soothe the inflammation
- Moisten your throat, using salt gargles or lozenges
- Breathe in moist air, inhale steam from a bowl of hot water or use a humidifier
- Cover your mouth and nose when you cough or sneeze

Don'ts --

- Avoid speaking as well as whispering, because they might injure your vocal cords severely
- Avoid drugs that cause dryness, like decongestants
- Avoid eating solid food, especially when you have difficulty in swallowing
- Avoid exertion as it might slow down your recovery

With proper care and precautions, acute laryngitis resolves completely without leaving any adverse effects. In a few selected cases, complications like vocal cord polyp or cyst may develop which require medical or surgical intervention. As far as chronic laryngitis is concerned, the nature of underlying cause determines the prognosis.