



Cancer of the Voicebox

“Laryngeal Cancer or Throat Cancer”

What is cancer of the larynx?

Also called carcinoma larynx or throat cancer, it is the disease where the laryngeal tissue gives rise to cancer-causing (malignant) cells forming a tumor. The tumor commonly originates from the thin flat cells (squamous cells) in the inner lining of the larynx, therefore it is referred to as *squamous cell carcinoma* by the doctors. However, there are other types of cancers that can affect larynx as well like adenocarcinoma (mucus-producing cancer cells).

The larynx is a hollow organ made of cartilage and muscles and is situated behind the tongue in the throat. It is connected to the windpipe (trachea) below and acts as a humidifier for inspired air. It also contains "vocal cords", which serve the function of speech production, thereby given larynx its name the *voice box*.

Laryngeal cancer often obliterates the cavity of the larynx and affects the functioning of vocal cords.

What are the types of laryngeal cancer?

Based on the position of vocal cords the larynx is divided into three parts.

1. *Supraglottis*- above the vocal cords
2. *Glottis*- containing the vocal cords
3. *Subglottis*- below the vocal cords

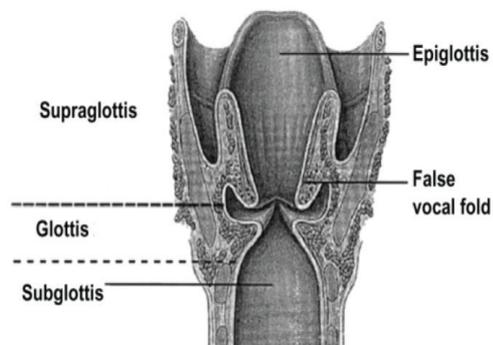


Fig. 1 Parts of Larynx

Accordingly, the laryngeal cancer is divided into 3 categories of the same names. The cancer of *glottis* is the most frequent, followed by *supraglottic tumors*. The *subglottic cancers* are the least common of them all.

Who is likely to get laryngeal cancer?

The risk factors that predispose a person to cancer of the larynx include both intrinsic and extrinsic factors, such as-

Environmental (extrinsic) factors	Intrinsic factors
*Smoking & other forms of tobacco use (> 8-10 years)	Old age (\geq 55 years)
Long term & heavy consumption of alcohol	Male Sex
HPV (human papillomavirus) infection	Family History
Long term Acid reflux (laryngopharyngeal reflux)	
Exposure to Heavy metal paints, asbestos or radiation	

Typically, *“an 60 year old elderly male, who is a habitual smoker and/or tobacco user is most likely to have throat cancer.”*

What are symptoms?

The symptoms of throat cancer vary depending on what part of the larynx is involved. Glottic cancers being the most common type, patient's voice is affected in about 60%-70% of cases. Not every patient has all the signs and symptoms listed below, but usually present with two or more of the following-

- Voice change or hoarseness or sometimes inability to speak, which is persistent and of more than 2 weeks duration
- A swelling or lump in your neck that you can be felt from outside
- Difficulty or pain during chewing or swallowing the food
- Pain in the ear that is constant and is not going away
- Slight difficulty in breathing
- Coughing up blood on more than one occasion
- Weight loss with or without loss of appetite

On examining physically, the doctor might find some findings suggestive of throat cancer, like a palpable lump in the neck, enlarged lymph nodes in head and neck region, generalized paleness, etc. An Indirect laryngoscopy may or may not show a tumor in the larynx, and you'd be advised to go for further diagnostic tests.

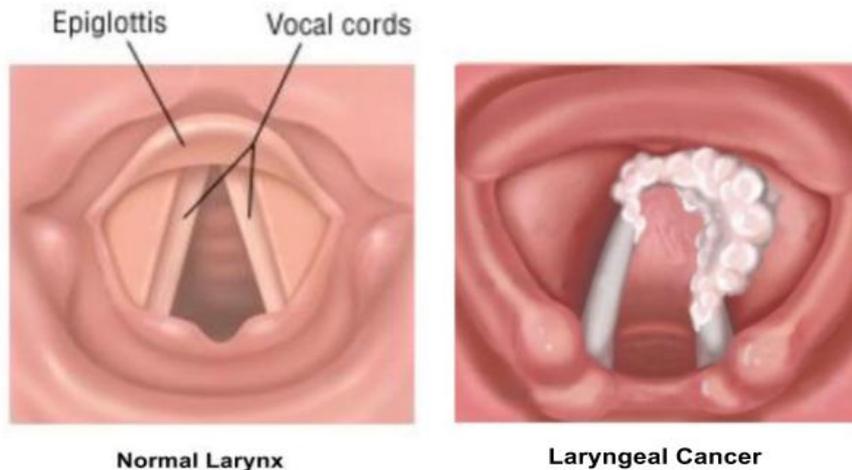


Fig. 2 Appearance of Laryngeal Cancer

How does a doctor diagnose throat cancer?

Depending on the symptoms and signs and presence of any risk factors, the doctor might consider laryngeal cancer a possible diagnosis. In such a scenario, he might advise certain tests or procedure to confirm or exclude the possibility. A referral to an ENT specialist is often recommended. The procedures commonly used include-

- **Imaging Studies-** e.g. Chest X-ray, CT scan and MRI
- **Endoscopic Procedure-** It is done in the outpatient clinic and is done using a thin flexible scope passed through your nose or into the larynx to visualize any changes.
- **Biopsy-** Test for confirmation of the diagnosis. A small piece of the cancer tissue is taken under endoscopic guidance and sent to the laboratory to be studied under the microscope.

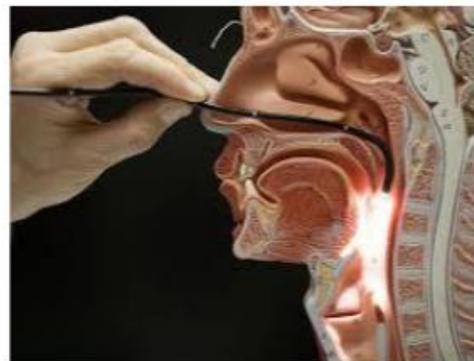


Fig. 3 Nasal Endoscope

- **Fine Needle aspiration-** An alternative to biopsy in cases where a lump is seen on the outside. The doctor can take the sample directly from the lump using a needle in an outpatient setting.

What is meant by stages of cancer?

The "Stage" of cancer determines the extent and spread of cancer, while the "Grade" tells us about the severity or prognosis. Among themselves, doctors and surgeons use TNM system

for staging and grading. However, for the patients, the stages are simplified using a number system.

STAGES Of Laryngeal Cancer	
Stage 0	Cancer involving only the lining of larynx, cord movement normal
Stage 1	Cancer going deeper under the lining where it started, cord movement normal
Stage 2	Cancer affecting other parts “within” the larynx, cords still spared
Stage 3	Cancer spread throughout the larynx, cord movement affected
Stage 4	Cancer spread outside larynx, involving surrounding tissues, and may have spread to other parts of body (called <i>metastasis</i>)

GRADE of Laryngeal Cancer	
Grade 1 (low)	Cells look like normal larynx cells, tends to spread slowly, less likely to spread
Grade 2 (moderate)	Cells are more abnormal, tends to grow at a higher rate, more likely to spread
Grade 3 (high)	Cells are highly abnormal, grows and spreads very quickly (worst prognosis)

What are the treatment options?

Once the diagnosis is made, no time should be wasted in availing the right treatment for the throat cancer. The aim of every treatment is to successfully remove the tumor and prevent its recurrence while keeping the laryngeal function as intact as possible. Treatment suitable for any patient is decided on basis of-

- The location of tumor
- The stage and grade of cancer
- Patient’s general health

The major treatment modalities are *surgery* and *radiotherapy*. Doctors may sometimes advise radiotherapy or chemotherapy before surgery to reduce the size of the tumor and make it easily removable.

In more advanced cases, where cancer has spread beyond larynx and surgery is not possible, a combination of radiotherapy and chemotherapy (*chemoradiation*) is used to slow down the growth.

As far as home management of cancer patient goes, there are a couple of remedies that can be used to ease the patient's symptoms but only after consulting the doctor. Also remember that they are not to replace the medical treatment, but serve as a palliative aid. Following remedies are commonly used in cancer patients-

- Herbs like green tea and garlic
- Dietary supplements like vitamins (importantly Vit. C and folic acid)
- Hydrotherapy (hot and/or cold wraps)
- Speech therapy
- Lifestyle modifications including exercise and balanced diet
- QUIT SMOKING

What is the outlook for people with laryngeal cancer?

Any cancer affects a person's quality of life adversely, be it financially, emotionally or various relationships. To cope up with the life with and after cancer requires a lot of support and conviction. Though success rates for treatment of stage I and II to cancer are quite good and approaching 90% 5-years survival, the outlook for more advanced cases is still a little grim.

Preservation of function of larynx presents a challenging aspect of cancer treatment. With evolving techniques and research, newer aids for voice restoration have come up for patients whose larynx have been removed entirely. For example, use of a "Voice Prosthetic Valve" can help people achieve near normal speech production, improving their quality of life post-cancer.

At the end, it can be asserted that throat cancer is largely preventable and highly treatable if diagnosed early. Quitting smoking can drastically reduce the chances of having cancer, and it has been confirmed by countless studies. Adopting a healthier lifestyle, avoiding as many risk factors as you can go a long way is preventing laryngeal cancer.



Image references:

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