



Singer's Nodules

Nodules on the Vocal Cords

Vocal cord nodules are painless "callus" like bumps that develop on the vocal cords (usually both) giving rise to gradually increasing raspiness in the voice. People with professions like singing, teaching, public speaking, etc. are known to overuse their voice without proper care, thus, making themselves prone to vocal nodules. Given that such nodules often affect budding, less trained singers, the condition is commonly called "Singer's Nodule" or "Singer's Nodes". However, anyone with brazen and careless vocal behaviors like a lot of yelling, whispering or just plain talking too much can develop these nodules.

Formation and Characteristics of Nodules

The underlying cause of vocal cord nodules is an injury to the cords. Any instance where the voice is used loudly and carelessly, the vocal cords move violently against each other. This causes trauma and breaks in the lining over the cord leading to swelling and bulging. Such swellings are often called "soft nodules" and can be resolved completely by resting the voice for a while. Unfortunately, in most cases, the repeated damage to the cords makes the swelling persistent, requiring treatment.

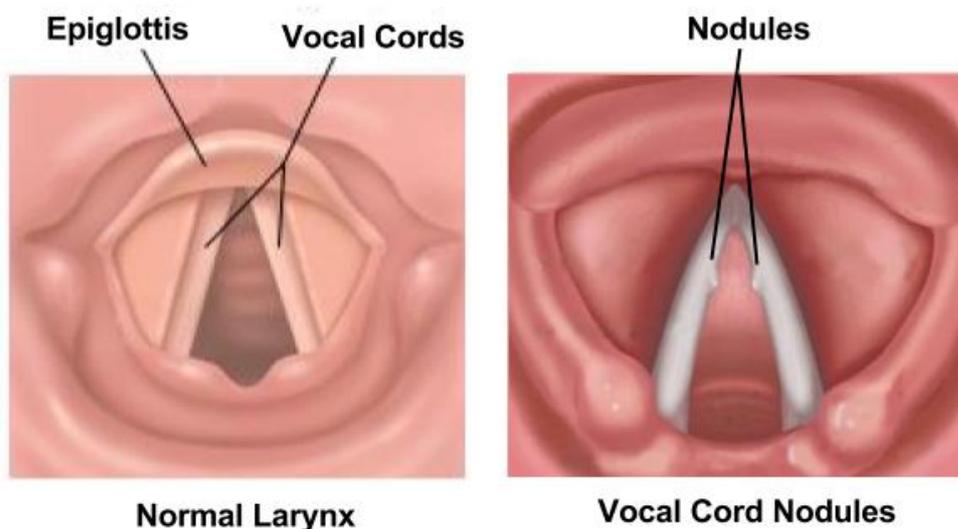


Fig. 1 Appearance of Vocal cord Nodules

If ignored and left untreated in the earlier phases, the soft nodules evolve into "hard nodules" due to the formation of a fibrous scar, much like excessive and careless

pressure on feet leads to callus formation. This makes the cords stiff and difficult to vibrate. The voice produced is raspy and breaks easily, especially in a certain range of pitch (shrillness).

Characteristic features of vocal nodules are--

- Involve both cords simultaneously
- Usually, form in the anterior one-third (towards the front) of the cord
- Can resolve completely by resting the voice
- There is evidence of abusive vocal behavior in almost all cases

Changes in Voice due to Nodule

In a case of vocal cord nodule, a person's voice slowly undergoes a series of changes from slight raspy voice to profound and irreversible hoarseness. In the beginning, the voice has a husky tone with the loss of sound at a higher pitch. Gradually, you may notice a slight silence at the onset of a sound (onset delay) and break of voice at a particular pitch (voice breaks), typically with high-pitched or shrill voice. The voice becomes breathy and weak and, if left untreated, might culminate in hoarseness. These changes are most noticeable when you use a quiet voice.

The Diagnosis

Any complaint about an alteration in your voice character would alert your doctor about the possibility of vocal cord nodules. A history of excessive voice use with or without pain in throat and absence of other symptoms like a sore throat, difficulty in breathing, etc. would point towards the diagnosis of vocal cord nodules. Usually, the doctor would also ask about some non-vocal complaints like-

- Habit of clearing throat frequently
- Cough of long duration
- Increased use of Whispering voice

The reason for such queries is that they also cause the violent collision of air against the vocal folds, leading to swelling and nodule formation.

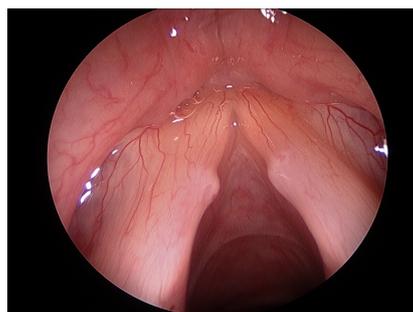


Fig. 2 Endoscopic View

The definite diagnosis is made by endoscopic visualization of the larynx and vocal cords using *Nasal Endoscopy*.

Treatment Options

Voice therapy

Contrary to previous times, surgery is no longer the treatment of choice for vocal cord nodules because it has been found that complete resolution of the nodules can be achieved with proper voice therapy. Although it takes weeks to months of patience, nodules treated conservatively with voice therapy are far less likely to recur compared to the surgical approach.

Voice therapy, or voice training, involves a horde of techniques used for management of voice disorders and improvement of speech. It also entails a number of behavioral changes as described below-

- **Rest your voice as much as possible.** Avoid unnecessary talk.
- **Gargle with warm saline water**
- **Control your voice.** E.g., if you speak loudly and at a high pitch, try to restrain yourself from doing that, instead try to speak in slow, low-pitched voice quietly.
- **Quit smoking.** Smoke irritates the lining of the larynx and prevents proper healing.
- **Avoid coughing and clearing your throat frequently.**
- **Consume a lot of fluids and soft foods.**

Voice therapy can be used in conjunction with surgery in advanced cases. It helps in swift recovery of speech function with minimal damage to the voice.

Surgery

Surgery nowadays is reserved mainly for advanced cases like patients with hard nodules, failure of voice therapy, or sometimes in cases of “impatient” people who are not willing or simply can not wait for months (professional singers for instance). However, if the brazen and careless voice use continues after the surgery, the nodules WILL recur. Hence, surgery is not the ultimate solution.

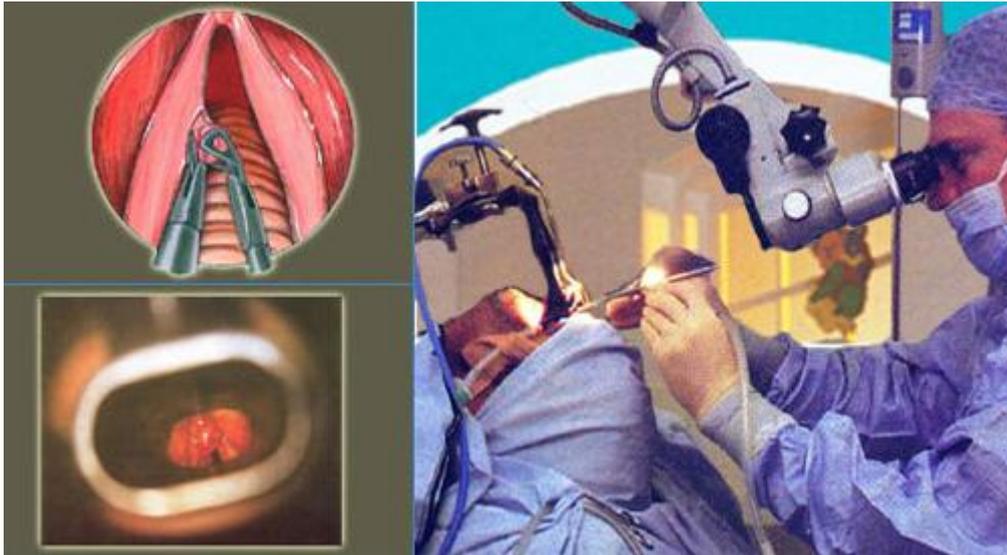


Fig. 3 Phonomicrosurgery

The commonly performed procedure include **Phonosurgery** (voice surgery) where an ENT surgeon carefully removes the nodule from the vocal cord. These days, the procedure is done using **micro-laryngoscope** which allows a better view of the operating field and causes minimal damage to surrounding tissues.

After the surgery..

It is very important to follow the postoperative instructions prescribed by the surgeon in order to make a complete recovery. The following precautions are commonly advised-

- Voice rest
- Control acid reflux
- Avoid alcohol
- Speech therapy
- Avoid coughing and throat clearing

There are a few possible adverse effects that may occur following surgery like numbness in the tongue, pain and swelling around the throat, injury to teeth and permanent hoarseness of voice. You should discuss all the possible outcomes with your surgeon before surgery.

Tips to Prevent Vocal Cord Nodules

- *Use your voice in moderation*
- *Give good amount of rest to the voice, especially if you use it professionally*
- *Avoid smoking and alcohol*
- *Avoid common allergens that may cause sneezing and coughing*
- *Eat healthy foods and consume plenty of water and fluids. Avoid fatty foods*
- *Drink warm fluids as far as possible*



References:

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