



VOICE PROBLEMS

Hoarseness

Insight into causes, prevention, and when to see an ENT

What Is Hoarseness?

Hoarseness is a general term that describes abnormal voice changes. When hoarse, the voice may sound breathy, raspy, strained, or there may be changes in volume (loudness) or pitch (how high or low the voice is). The changes in sound are usually due to disorders related to the vocal cords that are the sound producing parts of the voice box (larynx). While breathing, the vocal cords remain apart. When speaking or singing, they come together, and as air leaves the lungs, they vibrate, producing sound. Swelling or lumps on the vocal cords prevent them from coming together properly and changes the way the cords vibrate, which makes a change in the voice, altering quality, volume, and pitch.

What Are The Causes Of Hoarseness?

Acute Laryngitis:

There are many causes of hoarseness. Fortunately, most are not serious and tend to go away in a short period of time. The most common cause is acute laryngitis, which usually occurs due to swelling from a common cold, upper respiratory tract viral infection, or irritation caused by excessive voice use such as screaming at a sporting event or rock concert.

Vocal Nodules:

More prolonged hoarseness is usually due to using your voice either too much, too loudly, or improperly over extended periods of time. These habits can lead to vocal nodules (singers' nodes), which are callous-like growths, or may lead to polyps of the vocal cords (more extensive swelling). Both of these conditions are benign. Vocal nodules are common in children and adults who raise their voice in work or play.

Gastroesophageal Reflux:

A common cause of hoarseness is gastro-esophageal reflux, when stomach acid comes up the swallowing tube (esophagus) and irritates the vocal cords. Many patients with reflux-related changes of voice do not have symptoms of heartburn. Usually, the voice is worse in the morning and improves during the day. These people may have a sensation of a lump in their throat, mucus sticking in their throat or an excessive desire to clear their throat.

Smoking:

Smoking is another cause of hoarseness. Since smoking is the major cause of throat cancer, if smokers are hoarse, they should see an otolaryngologist.

Other Causes:

Many unusual causes for hoarseness include allergies, thyroid problems, neurological disorders, trauma to the voice box, and occasionally, the normal menstrual cycle.



Who Can Treat My Hoarseness?

Hoarseness due to a cold or flu may be evaluated by family physicians, pediatricians, and internists (who have learned how to examine the larynx). When hoarseness lasts longer than two weeks or has no obvious cause it should be evaluated by an otolaryngologist--head and neck surgeon (ear, nose and throat doctor). Problems with the voice are best managed by a team of professionals who know and understand how the voice functions. These professionals are otolaryngologist--head and neck surgeons, speech/language pathologists, and teachers of singing, acting, or public speaking. Voice disorders have many different characteristics that may give professionals a clue to the cause.

How Is Hoarseness Evaluated?

An otolaryngologist will obtain a thorough history of the hoarseness and your general health. Your doctor will usually look at the vocal cords with either a mirror placed in the back of your throat, or a very small, lighted flexible tube (fiberoptic scope) may be passed through your nose in order to view your vocal cords. Videotaping the examination or using stroboscopy (slow motion assessment) may also help with the analysis.

These procedures are not uncomfortable and are well tolerated by most patients. In some cases, special tests (known as acoustic analysis) designed to evaluate the voice, may be recommended. These measure voice irregularities, how the voice sounds, airflow, and other characteristics that are helpful in establishing a diagnosis and guiding treatment

When should I see an otolaryngologist (ENT doctor)?

- < Hoarseness lasting longer than two weeks especially if you smoke
- < Pain not from a cold or flu
- < Coughing up blood
- < Difficulty swallowing
- < Lump in the neck
- < Loss or severe change in voice lasting longer than a few days

How Are Vocal Disorders Treated?

The treatment of hoarseness depends on the cause. Most hoarseness can be treated by simply resting the voice or modifying how it is used. The otolaryngologist may make some recommendations about voice use behavior, refer the patient to other voice team members, and in some instances recommend surgery if a lesion, such as a polyp, is identified. Avoidance of smoking or exposure to secondhand smoke (passive smoking) is recommended to all patients. Drinking fluids and possibly using medications to thin the mucus are also helpful. Specialists in speech/language pathology (voice therapists) are trained to assist patients in behavior modification that may help eliminate some voice disorders. Patients who have developed bad habits, such as smoking or overuse of their voice by yelling and screaming, benefit most from this conservative approach. The speech/language pathologist may teach patients to alter their method of speech production to improve the sound of the voice and to resolve problems, such as vocal nodules. When a patients' problem is specifically related to singing, a singing teacher may help improve the patients' singing techniques.

What Can I Do to Prevent and Treat Mild Hoarseness?

- < If you smoke, quit.
- < Avoid agents that dehydrate the body, such as alcohol and caffeine.
- < Avoid secondhand smoke.
- < Drink plenty of water.
- < Humidify your home.
- < Watch your diet-avoid spicy foods.
- < Try not to use your voice too long or too loudly.
- < Use a microphone if possible in situations where you need to project your voice.
- < Seek professional voice training.
- < Avoid speaking or singing when your voice is injured or hoarse.

Fact Sheet about Voice Disorders



Most changes in the voice result from a medical disorder. Failure to seek a physician's care can lead to hoarseness and more serious problems.

Laryngitis

Laryngitis is a swelling of the vocal cords usually due to an infection. A viral infection (a cold) of the upper respiratory track is the most common cause for infection of the voice box. When the vocal cords swell in size, they vibrate differently, leading to hoarseness. The best treatment for this condition is to rest or reduce your voice use and stay well hydrated. Since most of these infections are caused by a virus, antibiotics are not effective. It is important to be cautious with your voice during an episode of laryngitis, because the swelling of the vocal cords increases the risk for serious injury such as blood in the vocal cords or formation of vocal cord nodules, polyp, or cysts.

Vocal Cord Lesions

Benign noncancerous growths on the vocal cords are caused by voice misuse or overuse and from trauma or injury to the vocal cords. These lesions (bumps) on the vocal cord(s) alter vocal cord vibration. This abnormal vibration results in hoarseness and a chronic change in one's voice quality, including roughness, raspiness, and an increased effort to talk. The most common vocal cord lesions include vocal nodules also known as singer's nodes or nodes which are similar to calluses of the vocal cords. They typically occur on both vocal cords opposite each other. These lesions are usually treated with voice rest and speech therapy (to improve the speaking technique thus removing the trauma on the vocal cords). Vocal cord polyp(s) or cyst(s) are other common vocal cord lesions caused by misuse, overuse, or trauma to the vocal cords

and frequently require surgical removal after all nonsurgical treatment options (i.e., speech therapy) have failed.

Gastroesophageal Reflux Disease and Laryngopharyngeal Reflux Disease

Reflux (backflow of gastric contents) into the throat of stomach acid can cause a variety of symptoms in the esophagus (swallowing tube) as well as in the throat. Hoarseness (chronic or intermittent), swallowing problems, a foreign body sensation, or throat pain are common symptoms of gastric acid irritation of the throat, called laryngopharyngeal reflux disease (LPRD). LPRD is difficult to diagnose because approximately half of the patients with this disorder have no heartburn symptoms which traditionally accompany gastroesophageal reflux disease (GERD).

Your gastric acid can flow up to the throat at any time. The at-night aspect of LPRD is thought to be the hardest to diagnose because there are usually no specific symptoms while the reflux occurs. Consequently, patients will awake with throat irritation, hoarseness, and throat discomfort without knowing the cause. An examination of the throat by an otolaryngologist will determine if stomach acid is causing irritation of the throat and voice box.

Poor Speaking Technique

Improper or poor speaking technique is caused from speaking at an abnormally or uncomfortable pitch, either too high or too low, and leads to hoarseness and a variety of other voice problems. Examples of this condition are when young adult females, in a work environment, consciously or subconsciously choose to speak at a lower than appropriate pitch and with a heavy voice. Percussive speaking, a voice too loud or focusing on the first syllable of each word, is another improper speaking technique that may result in injury or trauma to the vocal cords and muscles causing vocal fatigue.

Other factors leading to improper speaking technique include insufficient or improper breathing while talking, specifically breathing from the shoulders or neck area instead of from the lower chest or abdominal area. The consequence of this practice is increased tension in the throat and neck muscles, which can cause hoarseness and a variety of symptoms, especially pain and fatigue associated with talking. Voice problems can also occur from using your voice in an unnatural position, such as talking on the phone cradled to your shoulder. This requires excessive tension in the neck and laryngeal muscles, which changes the speaking technique and may result in a voice problem.

Vocal Cord Paralysis

Hoarseness and other problems can occur related to problems between the nerves and muscles within the voice box or larynx. The most common condition is a paralysis or

weakness of one or both vocal cords. Involvement of both vocal cords is rare and is usually manifested by noisy breathing or difficulty getting enough air while breathing or talking. However, one vocal cord can become paralyzed or severely weakened (paresis) after a viral infection of the throat, after surgery in the neck or cheek, or for unknown reasons.

The immobile or paralyzed vocal cord typically causes a soft, breathy, weak voice due to poor vocal cord closure. Most paralyzed vocal cords will recover on their own within several months. There is a possibility that the paralysis may become permanent, which may require surgical treatment. Surgery for unilateral vocal cord paralysis involves positioning of the vocal cord to improve the vibration of the paralyzed vocal cord with the non-paralyzed vocal cord. There are a variety of surgical techniques used to reposition the vocal cord. Sometimes speech therapy may be used before or after surgical treatment of the paralyzed vocal cords or sometimes as the sole treatment. Treatment choices depend on the nature of the vocal cord paralysis as well as the patient's voice demands.

Throat Cancer

Throat cancer is a very serious condition requiring immediate medical attention. When cancer attacks the vocal cords, the voice changes in quality, assuming the characteristics of chronic hoarseness, roughness, or raspiness. These symptoms occur at an early stage in the development of the cancer. It is important to remember that prompt attention to changes in the voice facilitate early diagnosis thus early and successful treatment of vocal cord cancer can be obtained.

Persistent hoarseness or change in the voice for longer than two to four weeks in a smoker should prompt evaluation by an otolaryngologist to determine if there is cancer of the larynx (voice box). Different treatment options for this cancer of the voice box include surgery, radiation therapy, and/or chemotherapy. When vocal cord cancer is found early, typically only surgery or radiation therapy is required, and the cure rate is high (greater than 90 percent).

Hoarseness or roughness in your voice is often caused by a medical problem. Contact an otolaryngologist-head and neck surgeon if you have any sustained changes to your voice.

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Fact Sheet About Your Voice

What Is Voice?

Voice is the sound made by vibration of the vocal cords caused by air passing out through the larynx bringing the cords closer together. Your voice is an extremely valuable resource and is the most commonly used form of communication. Our voice is invaluable for both our social interaction as well as for most people's occupation. Proper care and use of your voice improves the likelihood of having a healthy voice for your entire lifetime.

How Do I Know If I Have A Voice Problem?

Voice problems occur with a change in the voice, often described as hoarseness, roughness, or a raspy quality. People with voice problems often complain about or notice changes in pitch, loss of voice, loss of endurance, and sometimes a sharp or dull pain associated with voice use. Other voice problems may accompany a change in singing ability that is most notable in the upper singing range. A more serious problem is indicated by spitting up blood or when blood is present in the mucus. These require prompt attention by an otolaryngologist.

What Is The Most Common Cause Of A Change In Your Voice?

Voice changes sometimes follow an upper respiratory infection lasting up to two weeks. Typically the upper respiratory infection or cold causes swelling of the vocal cords and changes their vibration resulting in an abnormal voice. Reduced voice use (voice rest) typically improves the voice after an upper respiratory infection, cold, or bronchitis. If voice does not return to its normal characteristics and capabilities within two to four weeks after a cold, a medical evaluation by an ear, nose, and throat specialist is recommended. A throat examination after a change in the voice lasting longer than one month is especially important for smokers. (Note: A change in voice is one of the first and most important symptoms of throat cancer. Early detection significantly increases the effectiveness of treatment.)

Six Tips to Identify Voice Problems

Ask yourself the following questions to determine if you have an unhealthy voice:

- < Has your voice become hoarse or raspy?
- < Does your throat often feel raw, achy, or strained?
- < Does talking require more effort?
- < Do you find yourself repeatedly clearing your throat?
- < Do people regularly ask you if you have a cold when in fact you do not?
- < Have you lost your ability to hit some high notes when singing

Hoarseness or roughness in your voice is often caused by a medical problem. Contact an otolaryngologist-head and neck surgeon if you have any sustained changes to your voice.

Fact Sheet: Tips for Healthy Voices

Voice problems usually are associated with hoarseness (also known as roughness), instability, or problems with voice endurance. If you are unsure if you have an unhealthy voice, ask yourself the following:

- < Has your voice become hoarse or raspy
- < Does your throat often feel raw, achy or strained?
- < Has it become an effort to talk?
- < Do you repeatedly clear your throat?
- < Do people regularly ask you if you have a cold when in fact you do not?
- < Have you lost your ability to hit some high notes when singing?

Voice problems arise from a variety of sources including voice overuse or misuse, cancer, infection, or injury. Here are steps that can be taken to prevent voice problems and maintain a healthy voice:

Drink water (stay well hydrated):

Keeping your body well hydrated by drinking plenty of water each day (6-8 glasses) is essential to maintaining a healthy voice. The vocal cords vibrate extremely fast even with the most simple sound production; remaining hydrated through water consumption optimizes the throat's mucous production, aiding vocal cord lubrication. To maintain sufficient hydration avoid or moderate substances that cause dehydration. These include alcohol and caffeinated beverages (coffee, tea, soda). And always increase hydration when exercising.

Do not smoke:

It is well known that smoking leads to lung or throat cancer. Primary and secondhand smoke that is breathed in passes by the vocal cords causing significant irritation and swelling of the vocal cords. This will permanently change voice quality, nature, and capabilities.

Do not abuse or misuse your voice:

- < Your voice is not indestructible.
- < In every day communication, be sure to avoid habitual yelling, screaming, or cheering.
- < Try not to talk loudly in locations with significant background noise or noisy environments.
- < Be aware of your background noise-when it becomes noisy, significant increases in voice volume occur naturally, causing harm to your voice.
- < If you feel like your throat is dry, tired, or your voice is becoming hoarse, stop talking.
- < To reduce or minimize voice abuse or misuse use non-vocal or visual cues to attract attention, especially with children.
- < Obtain a vocal amplification system if you routinely need to use a loud voice especially in an outdoor setting.
- < Try not to speak in an unnatural pitch. Adopting an extremely low pitch or high pitch can cause an injury to the vocal cords with subsequent hoarseness and a variety of problems.
- < Minimize throat clearing: Clearing your throat can be compared to slapping or slamming the vocal cords together. Consequently, excessive throat clearing can cause vocal cord injury and subsequent hoarseness. An alternative to voice clearing is taking a small sip of water or simply swallowing to clear the secretions from the throat and alleviate the need for throat clearing or coughing. The most common reason for excessive throat clearing is an unrecognized medical condition causing one to clear their throat too much. Common causes of chronic throat clearing include gastroesophageal reflux, laryngopharyngeal reflux disease, sinus and/or allergic disease.

Moderate voice use when sick:

- < Reduce your vocal demands as much as possible when your voice is hoarse due to excessive use or an upper respiratory infection (cold).
- < Singers should exhibit extra caution if one's speaking voice is hoarse because permanent and serious injury to the vocal cords are more likely when the vocal cords are swollen or irritated.

It is important to listen to what your voice is telling you. Your voice is an extremely valuable resource and is the most commonly used form of communication. Our voices are invaluable for both our social interaction as well as for most people's occupation. Proper care and use of your voice will give you the best chance for having a healthy voice for your entire lifetime.

Fact Sheet: Effects of Medications on Voice

Could Your Medication Be Affecting Your Voice?

Some medications including prescription, over-the-counter, and herbal supplements can affect the function of your voice. If your doctor prescribes a medication that adversely affects your voice, make sure the benefit of taking the medicine outweighs the problems with your voice.

Most medications affect the voice by drying out the protective mucosal layer covering the vocal cords. Vocal cords must be well-lubricated to operate properly; if the mucosa becomes dry, speech will be more difficult. This is why hydration is an important component of vocal health.

Medications can also affect the voice by thinning blood in the body, which makes bruising or hemorrhaging of the vocal cord more likely if trauma occurs, and by causing fluid retention (edema), which enlarges the vocal cords. Medications from the following groups can adversely affect the voice:

- < Antidepressants
- < Muscle relaxants
- < Diuretics
- < Antihypertensives (blood pressure medication)
- < Antihistamines (allergy medications)
- < Anticholinergics (asthma medications)
- < High-dose Vitamin C (greater than five grams per day)

Other medications and associated conditions that may affect the voice include:

- < Angiotensin-converting-enzyme (ACE) inhibitors (blood pressure medication) may induce a cough or excessive throat clearing in as many as 10 percent of patients. Coughing or excessive throat clearing can contribute to vocal cord lesions.
- < Oral contraceptives may cause fluid retention (edema) in the vocal cords because they contain estrogen.
- < Estrogen replacement therapy post-menopause may have a variable effect.
- < An inadequate level of thyroid replacement medication in patients with hypothyroidism.
- < Anticoagulants (blood thinners) may increase chances of vocal cord hemorrhage or polyp formation in response to trauma.
- < Herbal medications are not harmless and should be taken with caution. Many have unknown side effects that include voice disturbance.

NOTE: Contents of this fact sheet are based on information provided by The Center for Voice at Northwestern University.

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