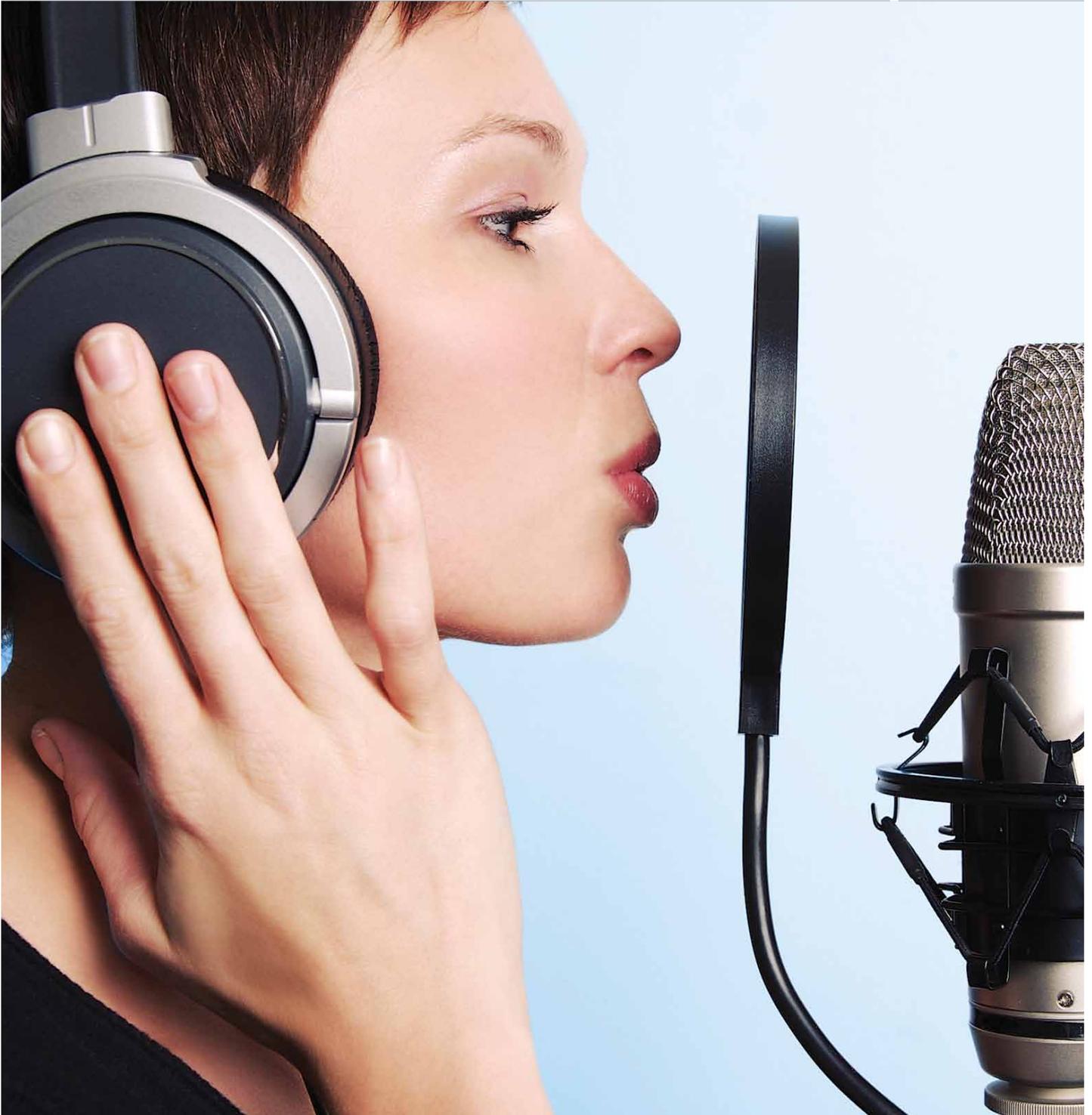


Duke Voice Care Center

dukevoicecare.org

VOCAL HEALTH INFORMATION



“Vocal hygiene” can be thought of as the care and feeding of the voice. It refers to the things we do to keep the voice healthy. We work on improving how the larynx (voice box) works through voice therapy, but it is also important to take care of the voice by taking care of the body and using the voice well.

HYDRATION: KEEPING THE VOCAL FOLDS MOIST

Keeping the vocal folds moist through good hydration is very important for good vocal health. We can provide moisture to the vocal folds both from the inside (internally) and from the outside (externally).

INTERNAL HYDRATION

To keep the vocal folds moist from the inside, make sure that you drink plenty of water. The vocal folds move best when the body is well-hydrated, and well-hydrated vocal folds may be less likely to get hurt from voice use. Good hydration also makes the mucus that covers the vocal folds thin and slippery, so that they move against each other easily and vibrate smoothly. Think of the mucus coating as being like motor oil in the engine of your car: if it is thin and slippery, the engine runs smoothly; if it is thick and sticky, the engine doesn't run well and can be damaged.

- If you are under a doctor's care for any medical conditions, be sure to check with your doctor before changing the amount of water you drink.
- We recommend drinking at least eight eight-ounce servings of water per day (total of 64 ounces). That's a little less than two liters per day.
- If you are drinking a lot less than that now, add a few ounces more each day until you get to 64 ounces.
- Alcohol and caffeine are drying to the entire body. Drinking them makes the vocal folds drier. Cutting back on caffeine and alcohol can help your body stay hydrated.
- Dry environments are also drying to the entire body. If you know that you are going to be in a dry place (like a dry building or an airplane), drink lots of water to keep your body hydrated.

If you don't like drinking water:

- Try flavoring the water with fruit or with sugar-free powdered drink mixes.
- Drink caffeine-free tea.
- Sometimes changing the temperature of the water makes it more enjoyable to drink.
- Foods that have a lot of water in them can help with hydration. Examples include cucumbers, melon, grapes, and gelatin.

EXTERNAL HYDRATION

External hydration is getting moisture to the vocal folds from the outside.

Steam inhalation: Inhaling or breathing steam helps the voice box stay moist and can be very soothing to irritated vocal folds. Breathe the steam through your nose for three to five minutes, two or three times per day.

You can try any of these methods:

- Breathe shower steam.
- Breathe steam from a personal steamer. You can buy these at many drugstores.
- Run hot water into a sink or basin and inhale the steam. You can also boil water, pour it into a sink, and breathe the steam. Never breathe steam standing over a hot stove or boiling water.
- Run a washcloth under hot water, wring it out, and hold it over your mouth and nose and breathe in.

Room humidification: You can increase the moisture in your home or office by using a room humidifier or hot-water vaporizer. Be sure to use a hot-water vaporizer. Cool-mist vaporizers can cause chemicals and germs to get into the air. With hot-water vaporizers, only water gets into the air you breathe.

- Room humidity should be between 30-50 percent. You can check the moisture in the air in your home by using a hygrometer, which can be purchased at many electronics or hardware stores.
- When using room humidifiers or vaporizers, it is very important to carefully follow the cleaning instructions. If you don't keep the humidifier or vaporizer clean, germs can get into the air that you breathe.
- If you have mold or mildew allergies, you should not use humidifiers or vaporizers. They increase the moisture in the environment and can cause mold and mildew to grow.

MEDICATIONS AND HYDRATION

Many medications, such as cold and allergy medications, are drying to the body. Try to avoid these medications to help your body stay hydrated. If you need to take these medications, you may need to drink extra water to make up for their drying effect. Of course, never change your medications without consulting your doctor.

Your doctor may recommend a mucolytic medication. This medication can help keep mucus thin and slippery. These medications are available over the counter. The active ingredient is guaifenesin. Brand names include Humibid, Mucinex, and Robitussin. Be sure to get the preparation that does NOT contain decongestants, antihistamines, or cough suppressants. NOTE: Mucolytics are only effective if you are well-hydrated; they are not a substitute for hydration.

Many cough drops and throat lozenges are drying to the mucous membranes of the mouth and throat. This is especially true for products that contain menthol and eucalyptus. The best lozenges for soothing the mouth or throat without drying are glycerin, pectin, or slippery elm lozenges. Brand names include Grether's Pastilles, Thayers Slippery Elm Lozenges, and Halls Breezers.

VOCAL MISUSE and VOCAL OVERUSE

Vocal misuse is using the voice in a way that causes it to be injured. These behaviors can lead to vocal fold lesions (bumps or calluses on the vocal folds), and in some cases, can cause permanent damage to the voice. Examples of vocal misuse include:

- Yelling, screaming, and hollering (including cheerleading)
- Throat clearing and coughing
- Loud talking
- Talking in noisy situations (sporting events, restaurants, bars, parties, social gatherings, industrial settings)
- Whispering
- Singing without warming up the voice or without singing training

Vocal overuse is using the voice too much so that it gets overly tired. This can lead to an increased risk of vocal fold injury. If your voice feels tired or gives out easily, you may be overusing your voice.

The vocal folds are made up of layers of delicate tissue. When you use your voice to make a sound, the vocal folds vibrate or come together. If they vibrate in an easy, gentle way, the voice works well, but if the vocal folds come together in a hard or forceful way, they can be injured.

It's like clapping your hands: if you clap them softly, you make a sound and your hands don't hurt. If you clap your hands together hard, they will start to tingle, and then hurt, and will become red and irritated. If you continue this hard clapping, you might get blisters on your hands. Yelling, screaming, throat clearing, coughing, and even loud talking can all bring the vocal folds together in a hard and forceful way and can cause vocal fold injury.

Talking a lot can also hurt your vocal folds. Your vocal folds come together about 100-200 times per second when you are talking. That can add up to millions of times per day if you are talking for many hours! All of that contact can cause wear and tear on your vocal cords. If they don't get a chance to rest and recover, they can become injured over time.

Many styles of singing bring the vocal folds together in a forceful way, too. Athletes and dancers carefully warm up their muscles to avoid injuring themselves, and they receive lots of training to learn to use their bodies without injuring themselves. Singing is the "athleticism" of voice use. Warming up your voice before singing and getting training in how to sing well can help you avoid injuring your voice.

HOW CAN I AVOID MISUSING OR OVERUSING MY VOICE?

- Use a noise maker or gesture to gain someone's attention instead of yelling or screaming.
- Walk over to the person you want to talk to or have them come to you instead of yelling across the room or from another room.
- Use easy, gentle throat-clearing.

- Avoid talking in noisy situations. If you are in a noisy situation:
 - Get close to the person you want to speak to.
 - Put an earplug in one ear so that you can monitor how loud your voice is.
- Use a microphone if you have to speak in a large room or in front of an audience or class.
- If your job or social setting requires you to use your voice a lot, give yourself voice breaks or times when you don't use your voice for a while to let your voice rest.
- Use a hands-free device or hold the receiver in your hand when you speak on the telephone instead of propping it between your ear and shoulder.
- Avoid speaking in stressful situations or when you are overly tense.
- Avoid whispering.

THROAT CLEARING

Throat clearing is traumatic to the vocal folds and can contribute to a vocal injury. Oftentimes, people feel the need to clear their throat because of the feeling of too much mucus, when actually the mucus is just too thick. Increasing your intake of water should gradually improve this problem. Inform your doctor if you have any drainage from your nose or any burning sensation in your throat. Some medical conditions may also contribute to a problem with thick mucus. If your doctor recommends a medication to thin the mucus (i.e., Mucinex), drink plenty of water (six to eight glasses per day) so the medication will work properly.

Over time, throat clearing becomes habitual. The more you clear your throat, the more you will feel the need to do so. Suppressing the urge to clear your throat or clearing your throat very gently can help to break this cycle. The following strategies will help to distract you from throat clearing and, therefore, eliminate habitual throat clearing:

- Dry swallow: Swallowing your saliva closes the vocal folds and can rid them of mucus.
- Take small sips of water.
- Use a gentle throat clear without forcing the breath. It will sound like a puff of air produced in the throat.
- Pant lightly or laugh gently then swallow.
- Hum lightly.
- Laugh gently then swallow.
- Talk through the mucus. The natural vibration of the vocal folds may rid the folds of secretions.
- Singers may try to vocalize lightly on five-note scales in a comfortable range on "oo," slide up an octave softly on "oo," and crescendo (get louder).

Remember, the throat clear is automatic, so it will take time, awareness, and practice to eliminate it. The decrease in wear and tear on your vocal cords will make the effort worthwhile!

VOCAL HYGIENE PRODUCTS

The best form of hydration for the larynx is water; however, symptoms may be severe enough that additional products are needed for immediate temporary relief. Here are some products that may help offset the feeling of dryness in the larynx. This list is not meant to be exhaustive but should provide you with some direction about useful products that are readily available. These products do not contain alcohol, menthol, or eucalyptus (ingredients that are known to contribute to dryness and irritation). Ingredients that can be soothing and that provide relief for dryness include glycerin, slippery elm, and pectin. Keep in mind that what works for one person may not work for another. And remember, these products do not treat the underlying problem; they only provide temporary relief of symptoms, so it is essential to continue to follow your doctor’s advice to improve the health and well-being of your voice.

Most of these products are available at several local retailers, including Walgreens, Target, Harris Teeter, CVS, Food Lion, Kroger, Wal-Mart, and Rite Aid. For those products that are harder to find, purchasing information is provided as part of the product information.

THROAT LOZENGES



Luden’s
ludens.com
Recommended flavors:
Cherry, Berry Assortment



Halls Breezers
(also in sugar-free)
gethalls.com



Grether’s Pastilles
pastillesforless.com
Available online



Thayers Slippery Elm Lozenges
thayers.com
Available at Whole Foods

DISCLAIMER

The Duke Voice Care Center provides this document for the benefit of our patients. We do not guarantee these products nor assume any responsibility for their usage. We do not receive any financial compensation nor have any financial arrangements with these companies.

SPRAYS

Available at some local pharmacies and health-food stores



Vocal-eze Throat Spray
travelwellness.com



Entertainer’s Secret
entertainers-secret.com



Singer’s Saving Grace
herbsetc.com

HUMIDIFIERS & STEAMERS



Vicks Warm Mist Humidifier (V745A)
vicks.com/products/humidifiers
1-gallon capacity, operates 12 hours per filling, automatic shutoff
* DO NOT use the recommended medicine cups



Vicks Steam Guard Vaporizer (V150SG)
vicks.com/products/vaporizers
1.5-gallon capacity, operates 18-24 hours per filling, automatic shutoff
* DO NOT use the recommended medicine cups

SINUS RINSE



Sinus Rinse Nasal Wash
neilmed.com



Sinus Rinse Nasal Wash—Pediatric
neilmed.com

SPECIAL TIPS FOR PERFORMERS: Singers, actors, music teachers, choir directors, broadcasters, and more

For all performers, it is very important to remember that you are your instrument. Other instruments can be replaced, but you only get one set of vocal cords! You are a vocal athlete, and that means you need to be extra careful in how you use and take care of your voice.

- Follow recommendations for hydration, managing allergies and reflux, and avoiding vocal misuse or overuse.
- Take care of your body by getting plenty of rest, exercising, and eating well.
- Avoid getting sick by washing your hands before eating and before touching your face, mouth, nose, or eyes.
- Don't smoke! Tobacco smoke is very irritating to the vocal cords, can cause changes in the tissue of the vocal cords, and causes cancer.
- Women should be especially careful to limit vocal demands just prior to and during menstrual cycles. The lowering of estrogen levels can result in vocal-fold swelling for some women.
- If you think you have a voice problem, get help quickly from health care professionals with specialized expertise in caring for voices.
- Consider getting a baseline evaluation of your voice when you are healthy. This will be helpful for comparison if you ever have a voice injury.

SPECIAL TIPS FOR SINGERS

- Warm up your voice before singing; cool down your voice after singing.
- Consider taking voice lessons to learn how to sing without hurting your voice.
- Learn to use your speaking voice in a healthy way by consulting a voice trainer or speech pathologist.
- Know your vocal limits and stay within them (pitch, loudness, and endurance).
- Rest your voice before and after a big singing day.
- Plan your voice use and pace your voice, especially during times of increased vocal demands.
- Stop singing before you get tired. If you feel tired, you may have already done too much.
- Try not to "spend" your voice on learning the music. Learn the music by listening rather than by singing.
- If you sing with a band, use monitors. Have small speakers facing you on stage so that you can hear yourself adequately and modify your volume accordingly.

- Plan your singing schedule carefully and avoid overbooking.
- Avoid ice-cold drinks while singing. Room temperature is better.
- Consider getting a baseline evaluation of your voice when you are healthy. This will be helpful for comparison if you ever have a voice injury.

SPECIAL TIPS FOR MUSIC DIRECTORS

- Warm up your voice before rehearsal.
- Use amplification for your voice during rehearsal.
- Use printed signs or hand signals to communicate messages that you say over and over.
- Minimize using your voice to teach the music. Have the pianist/instrumentalist or section leaders demonstrate the part.
- Provide recordings for your choir members to learn the music.

SPECIAL TIPS FOR ACTORS

- Warm up your voice before performances and rehearsals.
- Consider taking acting or stage voice classes to learn how to project your voice without injury.
- Know your vocal limits and stay within them (pitch, loudness, and stamina).
- Rest your voice before and after vocally demanding days (extended rehearsals, performances, voice-over work, etc.).
- Plan your voice use and pace your voice, especially during times of increased vocal demands.
- Stop speaking before you get tired. If you feel tired, you may have already done too much.
- Plan your performance schedule carefully and avoid overbooking.
- Avoid ice-cold drinks while you're using your voice. Room temperature is better.

SPECIAL TIPS FOR TEACHERS

Teachers are at special risk for developing hoarseness simply because the job requires heavy voice use five days a week, with little time in between to allow the voice to recover. In fact, half of all teachers have a voice problem at some point in their careers. With a little knowledge, many teachers can keep occasional hoarseness from becoming a chronic problem. However, if you are hoarse for more than two weeks, you should seek medical attention.

- Follow recommendations for hydration, managing allergies and reflux, and avoiding vocal misuse or overuse.
- Avoid getting sick by washing your hands before eating and before touching your face, mouth, nose, or eyes.
- Women should be aware of menstrual cycles and how that may affect the voice. Many women have some vocal fold swelling (and thus, a mild change in voice quality) around day 21 of the cycle. If this is true for you, avoid heavy voice use at these times.
- Don't smoke! This irritates the vocal folds, can make you hoarse, and can cause throat cancer.

HOW CAN I AVOID OVERUSING MY VOICE?

- Overusing your voice during a teaching day is an occupational hazard. Rest your voice (be silent) between times of heavy voice use, so the voice has time to recover. Work in some quiet time for "voice naps" during your teaching day—even breaks of 15 minutes can help. If possible, have an assistant or volunteer perform speaking activities, such as reading a story aloud to your students.
- Outside of work, be aware of extra voice use, like singing or yelling at sports events. These activities can push your "voice use quota" over the limit. You will likely need to prioritize your voice use and avoid spending your voice on activities that aren't essential.
- If you do become hoarse, limit speaking or singing. Avoid any nonessential voice use. If you must use your voice during this time, take special care to be well-hydrated, avoid pushing from the throat to force the voice out, and rest your voice as soon as you get a chance.

WHAT VOCAL BEHAVIORS SHOULD I AVOID BECAUSE THEY EASILY CAUSE HOARSENESS?

- Avoid whispering. Use a quiet voice instead.
- Don't yell or shout for extended periods.
- Avoid talking over noise whenever possible. Turn off the TV or radio when talking, and take care to monitor your loudness level at social gatherings. Wearing an earplug in one ear can help you hear your voice in a noisy gathering, so that you can avoid being too loud. Whenever possible, turn down the volume on your voice.

- Avoid chronic coughing or clearing your throat, as these behaviors irritate the throat and can cause vocal fold swelling. Sip water instead and swallow your mucus.

HOW CAN I MAKE SURE I AM USING MY BEST VOICE PRODUCTION FOR TEACHING?

- Use good posture and good breath support when speaking. Make sure you are using a diaphragmatic breathing pattern rather than a shallow breathing pattern that relies on the upper chest. Allow the abdominal muscles to relax as you inhale and feel the rib cage expand as you fill up with air. Let the shoulders remain still. Using your best breath support and voice production can help you avoid becoming hoarse.
- Warm up your voice before your teaching day so that you begin with your best voice production. Use easy humming to glide up and down on three notes, moving up one note for the next series, and repeat as you move gently through your vocal range multiples times, taking a breath whenever you need to. This way, you will gradually and gently stretch your vocal folds. As you hum, notice vibrations in the front of your face, and keep your throat relaxed. Next, repeat the same sequence using a syllable such as "mum" or "num" or "me." Notice the vibrations in the front of your face. Next, try gently speaking sentences that have lots of "m" words (Meet me on Monday). Again, feel the vibrations of the front of your face, and make sure your throat is relaxed. Finally, say some everyday phrases using the same easy production. Your goal is to use this easy vocal production throughout the day.

HOW CAN I BEST USE MY VOICE IN A TYPICAL NOISY CLASSROOM?

- When you can, use sound makers (whistle, hand clap) to gain students' attention, rather than a loud voice.
- Use personal amplification or room amplification when teaching to minimize voice overuse. The ChatterVox and Spoke-man personal amplifiers are two of the most popular and can be purchased for less than \$200. Personal amplification goes wherever you go—in the classroom, in the cafeteria, or outside. Room amplification involves modifying the room and requires approval from your school. These systems generally cost around \$1,500.
- Improve your classroom acoustics by adding acoustic panels to the ceiling and walls and carpeting to the floors. These materials help decrease the reverberation or echo of sound in the room. Minimize the noise from fans, lights, overhead projectors, and sound coming from other classes. For more specific tips, visit asa.aip.org for the Acoustical Society of America's *Classroom Acoustics* booklet.

There are a number of medical conditions as well as voice use patterns that can lead to voice problems. The most common causes of hoarseness and voice problems are discussed in the following pages. If you become hoarse frequently or notice voice change for more than two weeks, please see your otolaryngologist (ear, nose, and throat doctor) for an evaluation.

ACUTE LARYNGITIS

Acute laryngitis is the most common cause of hoarseness and sudden voice loss. Acute laryngitis is usually caused by a viral infection that leads to swelling of the vocal folds. Swelling on the vocal folds changes the way they vibrate, and we hear this change as hoarseness. The best treatment for acute laryngitis is to stay well-hydrated and to rest your voice or limit your voice use. If you make heavy use of your voice when you have acute laryngitis, you are risking serious injury to the vocal folds. Since most cases of acute laryngitis are caused by a virus, antibiotics are not effective. Bacterial infections of the larynx are much rarer and are often associated with difficulty breathing. Of course, any breathing problems during an illness require emergency medical attention.

CHRONIC LARYNGITIS

Chronic laryngitis is a general term for inflammation of the vocal folds. Chronic laryngitis can be caused by acid reflux disease, exposure to irritating substances such as smoke, chronic misuse of the voice, and low-grade infection, such as a yeast infection of the vocal folds. People using inhalers for asthma, as well as chemotherapy patients or others with suppressed immune systems, are susceptible to these infections.

NOTES

LARYNGOPHARYNGEAL REFLUX DISEASE (LPRD)

Reflux of stomach acids into the throat can cause a variety of symptoms in the esophagus (swallowing tube) as well as in the throat. Common throat symptoms include hoarseness, swallowing problems, a feeling of having a lump in the throat, or throat pain. LPRD can occur without any symptoms of heartburn and regurgitation that are traditionally associated with gastroesophageal reflux disease (GERD).

VOICE OVERUSE AND MISUSE

Voice overuse and misuse put you at risk for vocal fold lesions and vocal hemorrhage. Voice overuse and misuse are discussed at length on page 3 of this booklet.

BENIGN LESIONS OF THE VOCAL FOLDS

Benign non-cancerous growths on the vocal folds are most often caused by inefficient voice use, which causes trauma to the vocal folds. These lesions (or “bumps”) on the vocal folds alter vocal fold vibration and lead to hoarseness. The most common vocal fold lesions are nodules, polyps, and cysts.

Vocal nodules (also known as nodes or singer’s nodes) are akin to “calluses” of the vocal folds. They occur on both vocal cords opposite each other at the point of maximal contact. Vocal nodules almost always improve with voice therapy.

Vocal fold polyps and cysts are also usually related to voice misuse or overuse but can sometimes occur in people who do use their voice properly. A patient with a cyst or polyp may find that the voice improves with voice therapy and optimal vocal hygiene, since swelling around the lesions may be reduced. However, microsurgery is frequently needed to maximize vocal quality. Of course, a decision to undergo surgery is always based on discussions between the otolaryngologist and the patient, and will depend on the patient’s goals. Voice therapy is generally recommended before and after surgery.

VOCAL FOLD HEMORRHAGE

If you experience sudden loss of voice following yelling, shouting, or other strenuous vocal tasks, you may have developed a vocal fold hemorrhage, which can happen when a blood vessel on the surface of the vocal fold ruptures and bleeds into the tissue of the vocal fold. It is considered a vocal emergency and is treated with absolute voice rest (silence) until the hemorrhage resolves. If you lose your voice after strenuous voice use, see your otolaryngologist as soon as possible.

VOCAL FOLD PARALYSIS OR PARESIS

The most common neurological condition that affects the larynx is paralysis or weakness of one or both of the vocal folds, resulting from problems between the nerves and muscles in the larynx (voice box). It is rare for both vocal folds to be affected, and in this case the primary concern is difficulty breathing.

More commonly, when one vocal fold is paralyzed or weak, the voice is usually the problem rather than breathing. One vocal fold can become paralyzed or weakened (paresis) from a viral infection of the throat, after surgery in the neck or chest, from a tumor or growth along the laryngeal nerves, or for unknown reasons. Vocal fold paralysis typically presents with a soft and breathy voice. Many cases of vocal cord paralysis will resolve within several months. In some cases, however, the paralysis will be permanent and may require intervention to improve the voice. Treatment depends on the nature of the vocal fold paralysis, degree of vocal impairment, and the patient's vocal needs, and may involve voice therapy and/or surgery.

While surgery cannot restore movement to paralyzed vocal folds, there are good surgical options for improving the voice. In cases of unilateral vocal fold paralysis, surgery can reposition or "bulk up" the vocal fold to improve contact between the two vocal folds and improve their vibration. There is a variety of surgical techniques used to accomplish this approach.

LARYNGEAL CANCER

Throat cancer is a very serious condition requiring immediate medical attention. Chronic hoarseness warrants evaluation by an otolaryngologist to rule out laryngeal cancer. It is important to remember that prompt attention to changes in the voice facilitates early diagnosis. Remember to listen to your voice, because it might be telling you something. Laryngeal cancer is highly curable if diagnosed in the early stages.

Additional information on laryngeal cancer can be found on page 11.

NOTES



THE VOICE and AGING

As we age, our voice changes. The most dramatic voice changes occur during childhood and adolescence. The larynx (voice box) and vocal cord tissues do not fully mature until late teenage years.

Hormone-related changes during adolescence are particularly noticeable among boys. The rapid changes in the size and character of the larynx cause characteristic pitch breaks and voice “cracking” during puberty as we learn to use our rapidly changing vocal instrument.

After several decades of relatively stable voice, noticeable change can occur in the later years of life. As our bodies age, we lose muscle mass, our mucous membranes thin and become more dry, and we lose some of the fine coordination that we had in younger years. Changes occur in the larynx, such as vocal cord atrophy or bowing (also called presbyphonia or presbylaryngis), and this leads to changes in our voice.

CHANGES IN THE VOICE AS WE AGE

- Higher pitch in men
- Lower pitch in women
- Reduced volume and projection of the voice
- Reduced vocal endurance
- Difficulty being heard in noisy situations
- Tremor or shakiness in the voice

These symptoms are exacerbated by the reduced hearing ability that occurs in our peers as we age.

NOTE that much of the time, hoarseness and vocal difficulties are not simply age-related changes. Any change that you notice in your voice should be a warning sign that something may be wrong. Most voice problems are highly treatable.

WHAT CAN BE DONE ABOUT AGE-RELATED VOICE CHANGE?

If you are bothered by your voice, take action. Consider a vocal fitness program (i.e., voice therapy), as healthy voice use is the key to voice preservation. Under the professional guidance of a voice-trained speech-language pathologist, voice therapy exercises can make a big difference.

Some people are candidates for medical or surgical treatment designed to increase the bulkiness of the vocal cords. These interventions can improve the steadiness, strength, or endurance of the voice.

NOTES



LARYNGOPHARYNGEAL REFLUX or ACID REFLUX

Acid reflux refers to acid from the stomach backing up into the esophagus (food tube). This is also called acid reflux disease, gastric reflux, or gastroesophageal reflux (GERD). If the acid travels up the esophagus and spills over into the larynx, it is called laryngopharyngeal reflux or LPR. Some people have what is known as “silent reflux,” where there are no obvious heartburn symptoms.

WHY IS REFLUX BAD FOR MY VOICE?

Stomach acid is very corrosive. If it comes into contact with the larynx, it can cause irritation, burning, or swelling. It can also make vocal-fold injuries worse and slow down the healing process for these injuries.

WHAT ARE THE SYMPTOMS OF REFLUX?

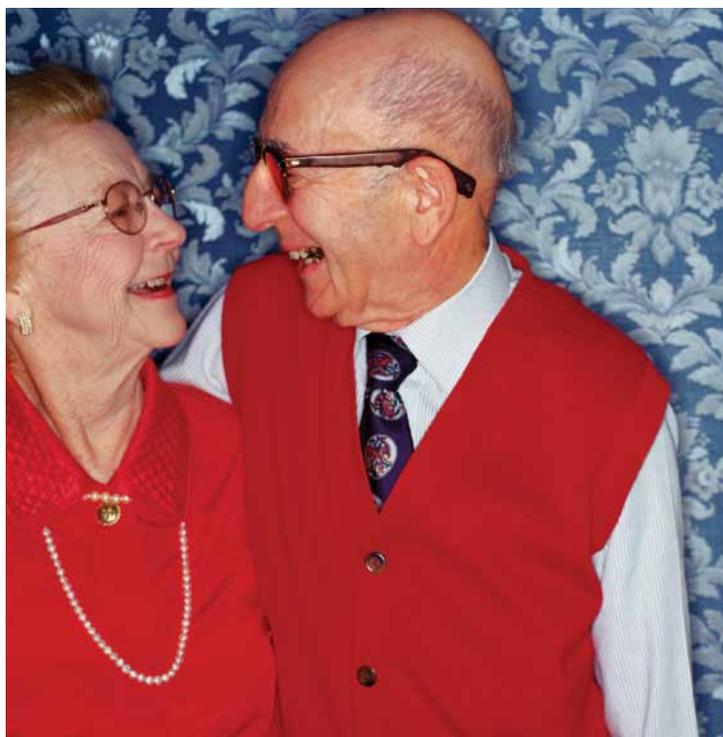
- Heartburn (although many people who have reflux do not have heartburn)
- Too much mucus in the throat, making you feel like you need to clear your throat often
- Feeling a “lump” in the throat
- Sour taste in the mouth
- Burning or gurgling feeling in the throat
- Hoarse voice, especially in the morning
- Frequent coughing or a “tickling” sensation in the throat
- Difficulty swallowing, especially solids

HOW IS REFLUX TREATED?

Your doctor will decide the best treatment for acid reflux for you. He or she may recommend changing your eating habits to help your voice. Your doctor may tell you to:

- Avoid exercise or singing after a meal.
- Avoid heavy meals late at night.
- Wait three to four hours before lying down after eating or drinking.
- Raise the head of your bed by six inches. Use a wedge or blocks rather than pillows.
- Try sleeping on your right-hand side.
- Begin a weight-loss program if you are overweight.
- Drink at least eight eight-ounce glasses of water per day.
- Avoid certain foods and drinks, including:
 - Spicy foods
 - Food and drinks, that are high in acid (i.e., citrus fruits and drinks, tomatoes)
 - Alcohol
 - Fried and fatty foods
 - Caffeine and carbonated beverages
 - Mint
 - Chocolate and sweets

Your doctor may also prescribe medication for acid reflux. Be sure to take the medication(s) as directed. In severe cases of reflux that don’t get better with diet changes or medicine, your doctor may recommend surgery to keep the acid from backing up into the esophagus.



ALLERGIES, SINUS INFECTIONS, and POSTNASAL DRIP

Allergies can be seasonal or year-round. People who suffer from allergies may experience irritation to the lining of the nose and sinus cavities. This may lead to a runny nose, mucus drainage into the throat (postnasal drip), and infection of the lining in the sinus cavities (sinusitis). These symptoms can lead to changes in voice quality. Postnasal drip can impact the quality of your voice by irritating the vocal folds, increasing the stiffness of the vocal folds, and altering the resonance of your voice. It can also increase the thickness of your mucus, which may lead to throat clearing—a behavior which can cause vocal fold swelling and irritation. The health of your voice is dependent on the control of your allergy and sinus symptoms.

If you have any of the following symptoms, talk to your doctor, as these may be signs of allergies or sinusitis. These may also be symptoms of other conditions, so proper diagnosis by your doctor is important.

- Postnasal drip
- Thick mucus in the throat (despite drinking plenty of water)
- Runny or stuffy nose
- Headache (in the front of your face)
- Nighttime cough
- Pain in the upper jaw or teeth
- Chronic sore throat

Treatment may include sinus rinse and medications to reduce irritation and/or infection. Keep in mind that over-the-counter nasal decongestant sprays are not usually recommended, as some of these products can be addictive. Also, some allergy medications taken by mouth have a drying effect (particularly those with a decongestant and/or antihistamine ingredient), which can contribute to your voice problem. Prescription nasal steroid sprays and/or nasal antihistamine sprays may be better treatment for people who suffer from allergies and are concerned about their voices. Your doctor will help you understand the causes of your symptoms and help to find the best care for you and your voice.

LARYNGEAL (VOICE BOX) CANCER

Laryngeal cancer is not as well known by the general public as other types of cancer, yet it is not rare. The American Cancer Society's 2009 estimates (most recent data) for the U.S. population include 12,290 new cases of laryngeal cancer and 3,660 deaths as a result of laryngeal cancer. Laryngeal cancer impacts the voice, breathing, and swallowing.

RISK FACTORS ASSOCIATED WITH LARYNGEAL CANCER

Tobacco is heavily related to laryngeal cancer. Development of laryngeal cancer is a process that involves many factors, but 90 percent is related to exposure to known carcinogens (cancer-causing substances) such as tobacco. Smoking contributes to cancer development by causing changes in the genes, impairing the clearance of other carcinogens from the lungs and airway, and decreasing the body's immune response. Smokers are five to 35 times more likely to develop laryngeal cancer than non-smokers.

Alcohol consumption is another important risk factor for laryngeal cancer and increases the cancer-causing effects of tobacco. People who smoke and drink alcohol have a much greater risk of laryngeal cancer.

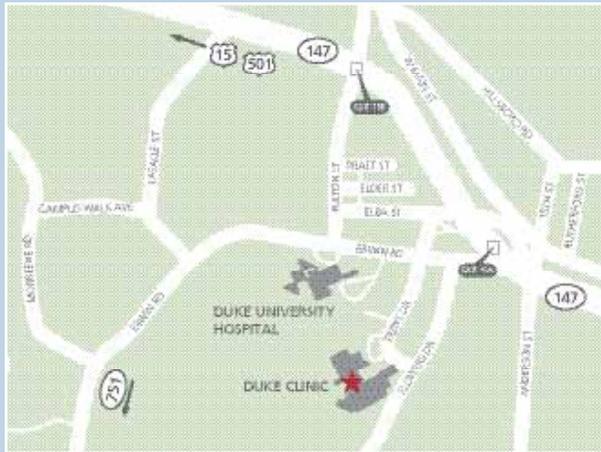
Other risk factors for laryngeal cancer include certain viruses, such as human papillomavirus (HPV), and possibly acid reflux. Vitamin A and beta-carotene may play a protective role.

SIGNS AND SYMPTOMS OF LARYNGEAL CANCER

Patients may experience progressive or persistent hoarseness, difficulty swallowing or breathing, persistent sore throat, pain with swallowing, pain in the ear, or a lump in the neck. Anyone with these signs or symptoms should be evaluated by an otolaryngologist (ear, nose, and throat doctor).

TREATMENT OF LARYNGEAL CANCER

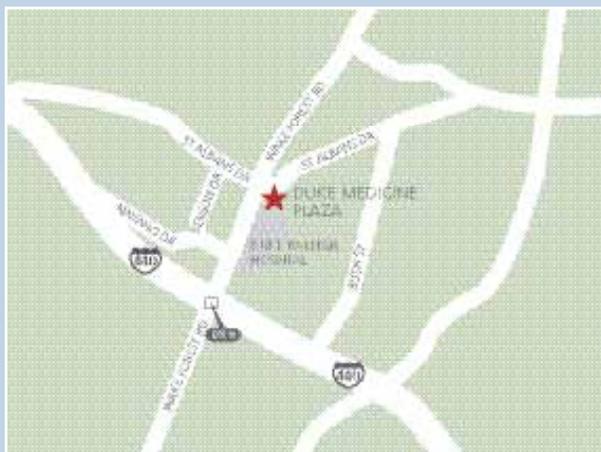
The primary treatment options for laryngeal cancer include surgery, radiation therapy, chemotherapy, or a combination of these treatments. The treatment of laryngeal cancer often involves a team approach to design the most appropriate treatment and to rehabilitate the voice and swallowing. Remember that this is a preventable disease in the vast majority of cases, because the main risk factors are associated with modifiable behaviors.



LOCATIONS:

Durham:
 Duke University Medical Center
 Duke Clinic 1H
 200 Trent Drive

Raleigh:
 Duke Medicine Plaza
 3480 Wake Forest Road
 Suite 404



Duke Voice Care Center

dukevoicecare.org

Duke Voice Care Center
 Duke University Medical Center
 Division of Otolaryngology–
 Head and Neck Surgery
 DUMC 3805
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 Appointments: 800-385-3646 (toll-free)
 919-684-3834 (local)