

Care of the Speaking Voice, for Musicians and Music Teachers

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Our speaking voice is the most direct reflection of our inner self, inextricably linked with personality. For that reason, changing the way we speak is among our most difficult tasks: we are essentially changing *ourselves*—or at least the way others perceive us. Unfortunately, our voices often are subjected to extreme, and potentially damaging use. Studies have shown that musicians, and especially music teachers, experience voice use that exceeds that of other people¹. Indeed, over the course of a single day, it is not uncommon for the two vocal folds—the source of vocal sound—collide with each other hundreds of thousands of times each day. Imagine how your hands would feel if you applauded the same number of times. Fortunately, the physiology of our voice is somewhat resistant to injury.

Our vocal folds (or vocal cords) are located within the larynx, commonly referred to as the voice box or Adam's apple. These two small folds of tissue, about the size of a dime for women and a quarter for men, are surrounded by a mucous membrane that cushions the blow each time the folds collide during phonation. As long as the body is maintained with adequate hydration and rest, and is not subjected to extreme or excessive vocalization, the voice easily sustains the day-to-day demands placed upon it. Musicians, however, often are required to exceed the voice use of “regular” people, both in terms of total phonation time and amplitude.

Maintenance of a healthy voice relies on four important factors: hydration, moderation, loudness, and prosody.

Hydration

Van Lawrence, the founder of the *Voice Foundation*, advised all professional voice users to monitor their hydration with the memorable phrase *sing wet, pee pale*. When the body is adequately hydrated for optimal voice use, the urine that is passed will be nearly colorless². For most people, this equates to a daily fluid intake of nearly 4 liters. Unfortunately, not all liquids are equally hydrating. Evidence suggests that caffeinated, acidic, sugary, and alcoholic beverages all strip the body of fluids. The best advice is to drink lots of water, and to balance the amount of coffee or wine with equal—and extra—portions of H₂O.

Moderation

While the human voice is extremely resilient and resistant to injury, chronic overuse and abuse quickly can lead to problems³. This is especially true if insufficient time is provided for rest, as is common in college students. Where would you fall on a 5 point scale, where 1 is a wallflower who never speaks unless spoken to and 5 is the person who always is at the center of attention, speaking to people live or on the phone for hours each day? If you are a 4 or a 5 on this scale, you should find ways to reduce your voice use (it is likely to already experience frequent bouts of voice fatigue). Prolonged overuse of the voice often leads to the development of callouses on the vocal folds, which are called nodules. While far from life threatening, nodules will impair your voice, leading to dysphonia and, when severe, a significant loss of dynamic and pitch range. They are relatively easy to treat medically, but the better solution is to avoid the overuse of the voice that creates them.

Loudness

The *Lombard Effect* is a well-established acoustic principle that describes the relationship between background noise and speech. To be easily understood, a person must speak at a loudness that exceeds background noise by a minimum of 20 decibels (20dB). That might seem like a small amount, until you realize that many orchestral instruments have a smaller dynamic range. In a quiet room, which is defined as having no more than 60dB of background noise, talking must happen at 80dB—whether is a conversation between friends or a lecture by a professor. Increase that background noise to 95dB, as might be the average in an ensemble rehearsal, and the amplitude of speech increases to 115dB. Now we have a

¹ Morrow, Sharon L and Nadine P. Connor (2011). “Comparison of Voice-Use Profiles Between Elementary Classroom and Music Teachers.” *Journal of Voice*, Volume 25, Issue 3, pages 367-372

² McCoy, Scott (2012). *Your Voice: An Inside View*. Inside View Press, Delaware, OH

³ Titze, Ingo R (1999). “Toward Occupational Safety Criteria for Vocalization.” *Logopedics, Phoniatrics, Vocology*, Volume 24, Number 2, pages 49-54.

problem. At peak loudness, a trombone produces about 114dB; a dramatic soprano might actually peak at 125dB. But for speaking, this high amplitude will quickly fatigue and ultimately injure the voice. In classroom settings, the solution is simple: keep the students quiet. But for conductors and directors, it often is advisable to employ electronic amplification. Studies have shown that teachers who use amplification are able to reduce the amplitude of their speaking voices by 10dB or more, which greatly reduces the risk of injury⁴. Regardless of whether or not amplification is present, it is vocally advisable for conductors to avoid talking over the ensemble while it is playing or singing at all times.

Prosody

Prosody, or the inflection of speech, is the final vital aspect in maintaining a healthy voice. The muscles and tissues of the voice react in much the same manner as the rest of the human body: they don't like to do the exact same thing over and over. Violinists, pianists and other instrumentalists are well aware of the risks of repetitive stress injuries. Similar things can happen in the voice, particularly when people speak with limited variety in pitch, loudness, and pacing. When speaking privately and quietly, prosody is less important. But when projection is required, as when lecturing to a class, directing a rehearsal, or speaking in a noisy situation, variability of pitch and loudness are vital. In terms of pitch, the average is much less important than the extent. Be sure to include a range of pitches, high and low. Not only will your voice be happier, your listeners will find you more interesting. As much as possible, avoid dropping into what is called *vocal fry*, the raspy, low-pitched grating quality that currently is endemic in public speaking patterns. If you are a wind player or singer, breathe when you speak like you breathe with you play your instrument. For everyone, try to keep your jaw, tongue, and neck muscles as relaxed as possible while you speak, and use your most resonant vocal timbre whenever you must project your voice in public.

There are no guarantees concerning vocal health. Even if you practice optimal vocal hygiene, scrupulously following all of the preceding rules, accidents can happen. Viruses and bacterial infections often take up residence in the respiratory tract, leading to hoarseness and laryngitis. If your voice doesn't feel right, give it a break. If it doesn't start to feel better after a few days of rest, it likely is time to visit a voice therapist or laryngologist to ensure that nothing is medically wrong. Talk to one of the voice teachers or the director of the Swank Voice Lab for recommendations and referrals.

⁴ Morrow, Sharon L and Nadine P. Connor (2011). "Voice Amplification as a Means of Reducing Vocal Load for Elementary Music Teachers." *Journal of Voice*, Volume 25, Issue 4, pages 441-446