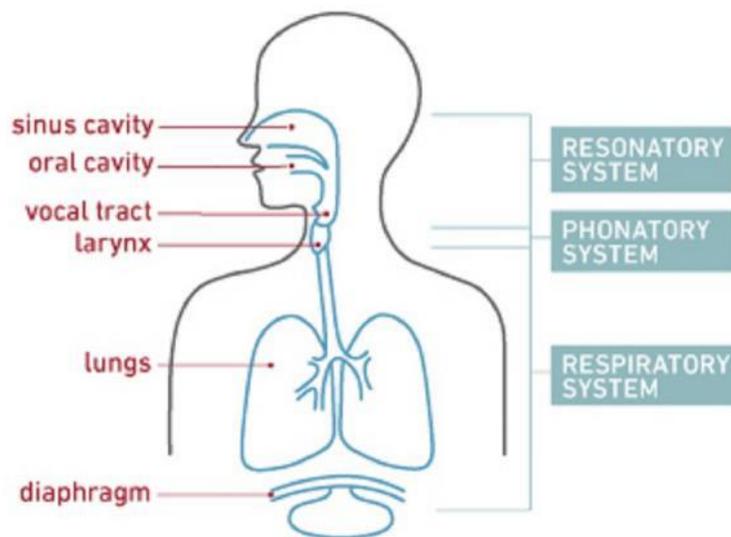


How Does My Voice Work?

From Temple Heath by Barbara Ebersole

Our voice is an intimate part of who we are, an important vehicle of our self-expression. Yet, how many of us actually understand what is going on inside our body when we speak? What is this “voice box”? There is actually a lot more to voice production than just the voice box. In fact, there are three systems that work together to create your voice: respiratory, phonatory (“voice box”), and resonance systems.



1. **Respiratory System**, also known as “breath support”, includes: lungs, ribcage, chest muscles, diaphragm, and windpipe.
2. **Phonatory System**, also known as the larynx or “voice box”, where sound is produced includes: larynx and, specifically, the vocal folds (also called “vocal cords”).
3. **Resonatory System**, also known as the “vocal tract”, includes: throat, nasal passages, sinuses, and mouth

Breath Support

Breath support (part of system #1) comes from your respiratory system. Breath is the “fuel” or power behind voice production. When we want to speak, we take a breath (inhale) and then start speaking on the exhale. It is this flow of air moving up the windpipe and through the voice box (between the vocal folds) that starts (and keeps) the vocal folds vibrating until you stop talking or run out of breath.

Phonation

Vocal fold vibration is the sound source: it is also called phonation (system #2). The vocal folds are two small muscles that have a moist covering, within the larynx. When you breathe, the vocal folds are open to allow air to flow from your upper airway into your trachea and lungs. When you want to speak, you close your vocal folds and begin to exhale, causing an increase in pressure that starts them vibrating (cyclic opening and closing). The vibration of the vocal folds chops the air flow, producing a buzz-like sound which doesn’t sound much like what we hear when we listen to someone’s voice!

Resonance

The buzzing tone created by the vocal folds becomes what we know as the human voice through resonance (system #3). Resonance is the shaping and amplification of the sound waves of the vocal tone. The length and shape of the vocal tract influences the shaping of this tone, as well as what

structures or cavities the sound waves may bounce off of. Resonance that occurs toward the front of the face is ideal. If you take a breath and hum on a steady tone for a few seconds, you can experience this sensation of resonance in the front of your face. In contrast, if you growl, you can feel that the resonance is farther down, in the back of your throat.

Finally, once the sound waves reach your mouth, you use your lips, teeth and tongue to shape the sound (articulation) into speech.

These vocal sub-systems need to share the “work” of voice production. In most people, an adequate balance is achieved naturally, and a voice problem never develops. However, if the system is very out of balance or if voice use is very heavy, then a voice disorder can occur. As a result, voice training to learn optimal technique is very important for all actors and singers (and other professional voice users), given the frequent high demands placed on their voices.