

How the Voice Works

We rely on our voices every day to interact with others, and a healthy voice is critical for clear communication. But just as we walk without thinking about it, we usually speak without thinking how our body makes it happen. However, knowing how we make sound is useful to maintaining the health and effectiveness of our voices. So this year on World Voice Day, April 16, take a minute to learn how your voice works. The following overview describes the body parts that work together to produce the sounds we make when we speak and sing.

The main parts of voice production:

- The Power Source: Your Lungs
- The Vibrator: Your Voice Box
- The Resonator: Your Throat, Nose, Mouth, and Sinuses

The Power Source: The power for your voice comes from air that you exhale. When we inhale, the diaphragm lowers and the rib cage expands, drawing air into the lungs. As we exhale, the process reverses and air exits the lungs, creating an airstream in the trachea. This airstream provides the energy for the vocal folds in the voice box to produce sound. The stronger the airstream, the stronger the voice. Give your voice good breath support to create a steady strong airstream that helps you make clear sounds.

The Vibrator: The larynx (or voice box) sits on top of the windpipe. It contains two vocal folds (also known as vocal cords) that open during breathing and close during swallowing and voice production. When we produce voice, the airstream passes between the two vocal folds that have come together. These folds are soft and are set into vibration by the passing airstream. They vibrate very fast – from 100 to 1000 times per second, depending on the pitch of the sound we make. Pitch is determined by the length and tension of the vocal folds, which are controlled by muscles in the larynx.

The Resonator: By themselves, the vocal folds produce a noise that sounds like simple buzzing, much like the mouthpiece on a trumpet. All of the structure above the folds, including the throat, nose, and mouth, are part of the resonator system. We can compare these structures to those of a horn or trumpet. The buzzing sound created by vocal fold vibration is changed by the shape of the resonator tract to produce our unique human sound. When our voices are healthy, the three main parts work in harmony to provide effortless voice during speech and singing.