

BREATHING FOR SPEAKING

Breathing is one of the most misunderstood of our body functions. While we can readily make ourselves aware of our breathing, the processes by which it takes place are complex.

Basically, we breathe by changing the internal dimension of the chest cavity. Inhalation is accomplished by muscle movements that elevate and expand the rib cage and the downward contraction of the diaphragm. The chest wall and abdominal wall are displaced forward.

This increased internal area of the chest cavity creates a negative air pressure inside of the lungs. Air rushes in through the nose or mouth and down the trachea (windpipe), the bronchial tubes and into the alveoli (lung sacs) to relieve the negative air pressure, which allows the lungs to fill with air (Remember that there is always a reserve of air stored within the lungs--so that the lungs don't completely deflate and to continue to allow oxygenation).

Oxygen transfers across the membranes in the alveoli into the capillaries, which carry the blood. Carbon dioxide is released from the capillaries back across the membrane into the air within the alveoli. The air that we breathe has to be close to body temperature and well humidified for the oxygen transfer to occur within the lungs.

Then the chest cavity reverses its more open state. This is accomplished by the release of the upward and outward contraction of the rib cage and the downward contraction of the diaphragm. The chest wall and the abdomen start to release to their previous resting states. In the alveoli to rush out into the bronchial tubes and up the trachea, past the vocal folds, and out of the mouth.

With more forceful breathing needs such as talking, singing, or exercise, there is also muscle contraction of the muscles of the abdominal wall and lower rib cage to further compress the air to give it adequate pressure for the particular task.

In the cases of performance speech and singing there are needs of a more continuous air flow with greater or lesser amounts of force to produce voice and speech sounds at varying loudness levels and pitch control. The abdominal wall muscles and lower rib cage muscles help to provide this control. The respiration needs for homeostasis (enough to keep the body operating at resting states) are relatively small. We rarely use more than 10-15% of our breathing capacity for these states.

Casual conversation only raises the respiration needs a slight amount, if at all. Stage performers on the other hand will use about 80-85% of total respiratory ability. For public speaking the respiration needs still fall modestly to the lower end of the mid range of breathing ability, varying to specific needs.

However, there are different ways that the muscles of inspiration/inhalation (taking air in) and expiration/exhalation (pushing the air out) are employed. It is very difficult to study breathing. As soon as a person attends to breathing, the process has changed. Even just closing the eyes changes how the muscles for breathing are working.

Clients who are singers, stage performers, and public speakers have concerns adequate breath support for strong, clear voice, adequate support for phrase and sentence length, and variation in loudness for good vocal variety. Added to that is the increased performance anxiety that tends to make breathing more shallow and rapid.

For good breathing support for voice performance you need to be using lower chest wall movement patterns and good abdominal wall movement for inhalation and exhalation. Breathing studies have shown that the true power of breath support for voice is from the muscle activity of the lower rib cage (where the “floating ribs” are).

Our work in therapy helps the client to develop the skills needed to bring breathing under better control and to develop optimal breathing movement patterns.