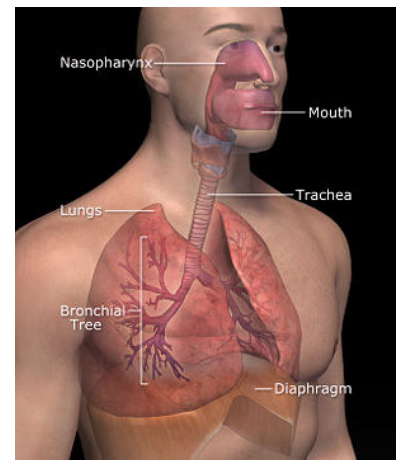


# The Singing Voice and Posture

Performers have always sought ways to make themselves heard from the stage. Ancient Greeks, the creators of theater, found a way to project their voices to thousands of people without devices. Through the use of their own bodies, these performers could enlighten thousands with their thoughts, music and ideas. Their incredible vocal projection was achieved through the use of breath support and the breathing system. But since then, vocalists have found that different postures and positions affect their breath support; they have even gone so far as to label correct and incorrect positions as well as correct and incorrect ways of vocalizing (Rodman). Both positions and vocalizing are integrated for scientists and vocalists alike have found that posture and positioning during performing has a direct effect on breath support, which in turn affects vocalization and performance.

## Breath Support

Breath support can be defined as the control we have over how fast we exhale by contracting the muscles in our abdomen (“Why You Need to Know. . .”). This support is the basis for all singing and vocalization and is essential for pitch management as well as volume, resonance and tone quality. To achieve good breath support, the whole breathing system (See Figure 1), which includes the diaphragm, a large system of muscles around the lungs, as well as the throat and vocal folds, must be used in unison (Marieb 835).



**Figure 1:** The breathing system is a complex structure including the lungs, diaphragm, tracheal/throat area, mouth, and other muscles around the lungs.

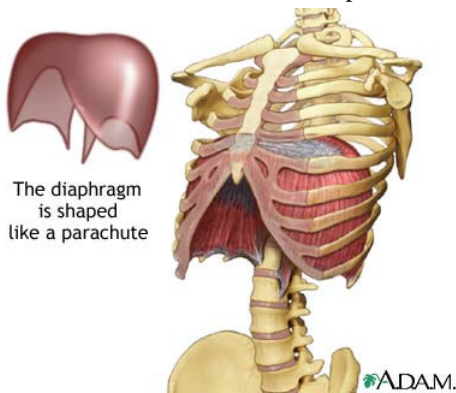
## **Incorrect Ways of Breathing**

Five ways of breathing are used in vocalizing and most of them are wrong. The four incorrect ways are chest breathing, back breathing, belly breathing, and rib breathing (“The Breathing Mechanism”). In chest breathing, the whole abdomen lifts up and down. Back breathing occurs when the lower and middle parts of the back expand instead of the lungs. Belly breathing lets only the lower part of the lungs fill up because the muscles of the stomach are pushed out. And rib breathing happens only in the upper rib

cage instead of the entire abdomen (“The Breathing Mechanism”). Shallow breathing through the mouth is also incorrect. Furthermore, when inhaling through the mouth, breath should be completely silent and air should not rush against the vocal folds. If breathing is audible, the vocal folds are not open enough and can result in irritation and trouble getting enough breath (Pinksterboer).

## Correct Ways of Breathing

The lungs should expand out and down when breathing properly and as they do, the diaphragm and other muscles expand and contract also (“Why You Need to Know. . .”). So when humans inhale, the



diaphragm falls to let the lungs expand (See Figure 2) and when exhaling, it contracts (Marieb 837). The power to vocalize comes from how well the air that fills the lungs and abdomen is managed and how long it can be sustained. The abdomen, especially the diaphragm, becomes a powerhouse running on air. But vocalizing is obviously not all in the

**Figure 2:** This picture illustrates the “parachute-like” qualities of the diaphragm, lifting and falling as breaths are taken in and exhaled.

abdomen. Sound is generated only when air is pushed through the vocal cords in the voice box. According to Anthony Winter, “The more air that is converted to sound by the vocal folds as they vibrate, the more sound will

be created. This means both a more powerful voice, and a more beautiful voice.” But air should not be pushed by the throat, but through it, by the contractions in the abdomen.

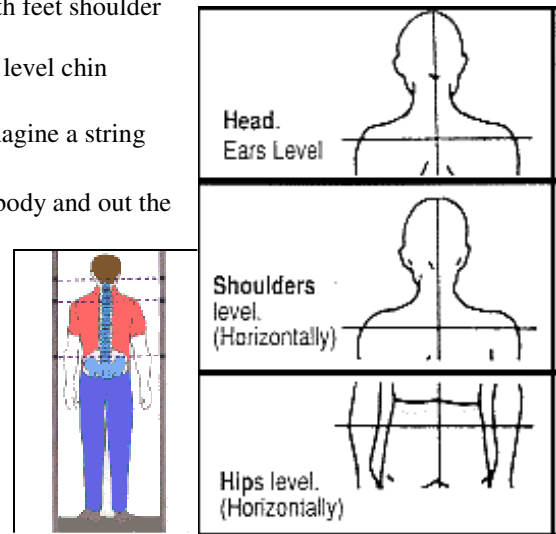
## Posture

Since breath support is one of the solitary most important matters in singing, anything that improves or hinders it is paid a great deal of attention, especially during performance. Posture is one of these important issues and many different aspects of posture affect the sounds produced by vocalists. The posture a vocalist has also speaks to the audience. It is part of the performance and portrays the performer’s character on stage, communicating to the spectators and offering an air of confidence and stage presence

(Luck). Correct posture is essential to a performance and key to getting the breath support needed because proper positioning makes sounds easier to control and produce.

## Correct Posture

The best way to achieve singer's posture is to stand with feet shoulder length apart, jaw, arms, and hands relaxed, unlocked knees, and level chin ("Music Performance"). Deborah Jeter says that you should "imagine a string coming straight up from the floor and running up through your body and out the top of your head which then extends upward to the ceiling." (See Figure 3). Vocalizing in this way ensures correct use of the voice so that it is not strained or damaged in any way. If a performer must sit during a performance, many of the same procedures should be followed. The jaw and arms should be relaxed, back straight, abdomen flat and the chin should be level. The performer should keep feet flat on the floor and sit on the edge of the seat to ensure the greatest amount of breath support (Rodman). Vocalizing and breathing this way will keep strain

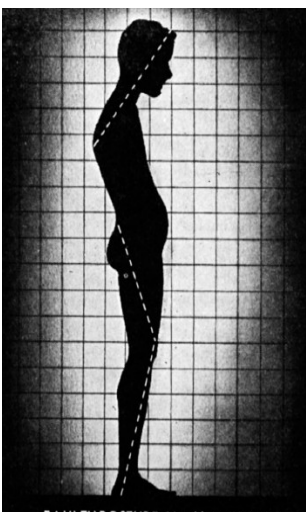


**Figure 3:** The picture on the right demonstrates what the entire body should look like standing with correct posture. The picture specifies the areas of the body that should be aligned.

off the vocal cords and keep the throat healthy and less irritated.

## Incorrect Posture

Incorrect posture, on the other hand, includes slouching, standing too rigidly, or any other type of inflexibility. Slouching results in a collapsed ribcage and an inability to breathe from the diaphragm (See Figure 4). Standing without flexibility makes the ribcage contract too tightly, which also causes problems with breathing and control (Rodman). Breathing this way can result in a strain on the voice because pressure is put on the throat instead of using the power in the abdomen.



**Figure 4:** Faulty posture is shown here with head forward, shoulders rolled, and abdomen slouched.

## **How Breath Support Affects Vocalization**

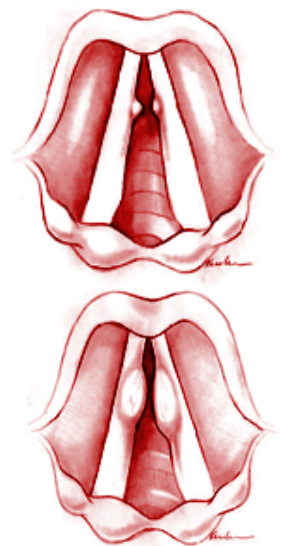
Since breath support is the base for singing, it is extremely important in the production of sound for a performer. The support from the diaphragm enables the vocalist control over the voice and the more breath support a vocalist has, the better the control on pitch, tone and placement. It is a pivotal and central part of all singing.

### **Correct Singing**

Correct breath support helps with multiple aspects of vocalization. Good support allows the performer to have power and projection, a key part to any performance, without hurting or straining the throat. Support also allows for control over the voice, allowing the vocalist to manipulate the sound in whatever way fits. Furthermore, breath support provides a solid base, helping the voice to be smooth and without cracking or wavering (“Why You Need to Know. . .”). Vocal range is affected by breath support as well, because breathing correctly gives the performer accurate support in order to increase vocal range, especially in the head voice or upper register. Support will also lets the vocalist project from the chest voice and head/chest blend voice and avoid straining the vocal cords from throat singing. Sustained notes come easier also and support helps the performer to hold out these notes to their fullest and not “drop off” at the end (“Why You Need to Know. . .”).

### **Incorrect Singing**

Most incorrect singing comes from breathing incorrectly from the abdomen or not breathing from that area at all and using only the throat, putting unnecessary strain on the vocal cords. Strain and tension happens whenever correct breath support is not used during performances. This stress can result in terrible injury to the vocal cords and other parts of the throat. In some cases, these injuries make a vocalist unable to sing ever again. Throat singing can produce vocal nodes, or nodules, when performers continue to vocalize even when their vocal cords are swollen from incorrect use or over-use (See Figure 5). The swelling



**Figure 5:** The top figure illustrates nodules on the vocal cords. The bottom picture shows vocal polyps.

makes the performer work harder to sound the same, causing an extension of scar tissue, preventing the cords from closing (Cross). A similar state known as polyps can also develop from vocal abuse (See Figure 5). And if medically untreated, the conditions will escalate until vocalizing is impossible.

Posture has a direct affect on vocalization through breath support, and in turn, a dramatic influence on performances. There are many different ways to breathe, but only one correct way: through complete use of the abdomen as a breathing support system ("The Breathing Mechanism"). There are also numerous different positions for performance but the best way to maximize breath support is in an upright but relaxed position, while both sitting and standing (Rodman). Vocalizing in this way allows for control, projection, and a larger range in the voice as well as less strain on the throat and vocal cords ("Why You Need to Know...").

#### References:

- The Breathing Mechanism. Photograph. [HealthySinging.com](http://www.personal.kent.edu/~manaya/Breath.htm). 3 Oct. 2007 <<http://www.personal.kent.edu/~manaya/Breath.htm>>.
- Cross, Melissa. "Maintenance/Damage Control." [MelissaCross.com](http://www.melissacross.com/melissa_cross_vocal_solution03.php). 2005- 2006. Loudmouth, Inc. 2 Dec. 2007 <[http://www.melissacross.com/melissa\\_cross\\_vocal\\_solution03.php](http://www.melissacross.com/melissa_cross_vocal_solution03.php)>.
- Jeter, Deborah. "Back to Basics: Visual Images." [MusicStaff.com](http://www.musicstaff.com/lounge/article2.asp). 5 Oct. 2007 <<http://www.musicstaff.com/lounge/article2.asp>>.
- Luck, Geoff and Petri Toiviainen. "The Singing Voice and Posture and Movement." [Ideal singing posture: Evidence from behavioral studies and computational motion analysis](http://www-gewi.uni-graz.at/cim07/CIM07%20Proceedings/CIM07_Luck-Toiviainen_Ideal%20singing%20posture.pdf). 110576. 2-3. Academy of Finland. 5 Oct. 2007 <[http://www-gewi.uni-graz.at/cim07/CIM07%20Proceedings/CIM07\\_Luck-Toiviainen\\_Ideal%20singing%20posture.pdf](http://www-gewi.uni-graz.at/cim07/CIM07%20Proceedings/CIM07_Luck-Toiviainen_Ideal%20singing%20posture.pdf)>.
- Marieb, Elaine N. "The Respiratory System." [Human Anatomy & Physiology](#). Ed. Kay Ueno. 5th ed. Daryl Fox, 2001. 835-879.
- Music Performance. Dept. home page. University of Kansas. 5 Oct. 2007 <<http://web.ku.edu/~cmed/gummposture/posture.html>>.
- Pinksterboer, Hugo. "Singing Well." [Tipbook Vocals: The Singing Voice](http://books.google.com/books?id=ToijmdACY1IC&pg=PA34&lpg=PA34&dq=singing+without+breath+support&source=web&ots=TDIWS9Mr6h&sig=YfKsmX-Nte-ZfxfNj2V2VJq7o#PPA37,M1). Hal Leonard, 2003. 5 Oct. 2007 <<http://books.google.com/books?id=ToijmdACY1IC&pg=PA34&lpg=PA34&dq=singing+without+breath+support&source=web&ots=TDIWS9Mr6h&sig=YfKsmX-Nte-ZfxfNj2V2VJq7o#PPA37,M1>>.
- Rodman, Judy. "How Posture Affects Vocalists' Live Performance." [EzineArticles](http://ezinearticles.com/?How-Posture-Affects-Vocalists-Live-) 28 August 2007. 3 October 2007 <<http://ezinearticles.com/?How-Posture-Affects-Vocalists-Live->

Performance&id=706278>.

"Why You Need to Know Proper Breathing Technique and The Truth About the Diaphragm."  
MusicalTheaterAudition.com. 2005. 3 Oct. 2007 <<http://www.musicaltheatreaudition.com/performance/voice/breathing.htm>>.

Winter, Anthony. "Breath Support." Anthony Winter Vocal Productions. Ed. Anthony Winter. 1995-2007. 20 Sept. 2007<<http://www.anthonywinter.com.au/singers/breath/>>.

Images:

Bad Posture. 8 Oct. 2007 <[http://www.nashvillescene.com/Stories/Columns/2005/04/07/Making\\_a\\_stand\\_for\\_good\\_posture/index.shtml](http://www.nashvillescene.com/Stories/Columns/2005/04/07/Making_a_stand_for_good_posture/index.shtml)>.

Digital diagram of the respiratory system. Photograph. 8 Oct. 2007 <<http://www.answers.com/topic/respiratory-system?cat=health>>.

Kessler, Scott, MD. Nodular Cords. Photograph. Loudmouth, Inc. MelissaCross.com. 2 Dec. 2007 <[http://www.melissacross.com/melissa\\_cross\\_vocal\\_solution03.php](http://www.melissacross.com/melissa_cross_vocal_solution03.php)>.

Kessler, Scott, MD. Polyps Vocal Cords. Photograph. Loudmouth, Inc. MelissaCross.com. 2 Dec. 2007 <[http://www.melissacross.com/melissa\\_cross\\_vocal\\_solution03.php](http://www.melissacross.com/melissa_cross_vocal_solution03.php)>.

Picture of the diaphragm. Photograph. 8 Oct. 2007 <<http://www.nlm.nih.gov/medlineplus/ency/imagepages/19072.htm>>.

Pink girl. Photograph. 9 Dec. 2007 <<http://feeds.feedburner.com/onephatdj>>.

Purple guy with headphones. Photograph. 9 Dec. 2007 <<http://www.icconnectdots.com/ctd/2005/06/index.html>>.

U2. Photograph. Macworld.com. 9 Dec. 2007 <<http://http://www.macworld.com/news/2004/10/12/u2ads/index.php>> .