

Kathleen Klosterman  
MUSE 258

Citation

*Teaching Kids to Sing*  
Chapter 6: Breathing and Laryngeal Mechanics  
Kenneth H. Phillips  
2014

Summary

I. The Breath

- A. Elementary and Secondary music teachers should be concerned that their students learn to breath properly because they can develop bad habits if they are not taught correctly in the early, most crucial years.
- B. Breath instruction should begin in the second grade, when the lungs are more developed.

II. The abdominal muscles are relaxed when inhaling, and contract when exhaling.

- C. The diaphragm should be controlled to lower with inhalation of the breath.
- D. The abdominals must be relaxed in order for the diaphragm to contract upon inhalation.
- E. The external intercostal muscles help during inhalation, and contract to move the rib cage upward, and allow for expansion of the thoracic cavity and take in of air.
- F. The internal intercostal muscles help during exhalation, and pull the ribs inward and downward, contracting the thoracic cage.
- G. The two parts of breath management are support and control.
  - i. Support produces an energized air column, or the power behind singing. It functions as the air pressure that is contained during the relaxing of the abdominal muscles during inhalation, and contracting upward and inward during exhalation causing a steady and constant air column.
  - ii. Control is the slow emission of the energized air column. The maintaining of a smooth application of the abdominals contracting up and against the diaphragm, a steady stream of pressurized breath shoots through the vocal folds, creating a steady pitch.

H. Abdominal Muscles.

- i. Outermost- rectus abdominis-not used for breathing, it helps in maintaining proper, upright posture
- ii. External oblique
- iii. Internal oblique
- iv. Innermost- Transverse abdominis

II. Appoggio

- A. For breath management, this way uses support and control through abdominal-diaphragmatic-costal interaction

II. The Voice

- A. Larynx-usually high for pop and young singers, in its normal at-rest position for trained singers.

- i. A depressed larynx produces a throaty sound and tends to blur diction
  - B. Vocal Registers- there are three vocal registers- crico-thyroid (CT) is the upper or head voice, thyro-arytenoid (TA) is the lower or chest voice, and (CT/TA) is the middle voice or a combination of the two
- III. Laryngeal Physiology
- A. Cartilages
    - i. Thyroid cartilage- protects the other parts of the larynx from damage
    - ii. Cricoid cartilage-moves around
    - iii. Arytenoid cartilage-these rotate and close the vocal folds for phonation
    - iv. Epiglottis- closes off the larynx during swallowing
    - v. The Thyroid notch is called the Adam's Apple
  - B. Muscles
    - i. Crico-thyroid muscles lengthen the vocal folds
    - ii. Thyro-arytenoid muscles shorten and thicken the vocal folds
    - iii. Crico-arytenoid muscles make the vocal folds come together
  - C. Hyoid bone- the only bone of the larynx, it serves as a positioning regulator of the larynx, allowing it to move upward and downward to accommodate yawning, swallowing, and clearing the throat.
  - D. Ventricular bands or "false vocal folds" protect the true folds from foreign matter (phlegm) and close for heavy lifting or exertion
  - E. Infrahyoid Muscles help lower the larynx in yawning or raise it for swallowing
  - F. Sternothyroid muscles help lower the thyroid cartilage of the larynx
  - G. Omohyoid muscles help lower hyoid bone and larynx
  - H. Thyrohyoid muscles raise the thyroid cartilage and lowers the hyoid bone for swallowing
  - I. Vocal ligament is the epiglottis
  - J. Stroke of the glottis is bringing the vocal folds together at the beginning of phonation
  - K. Shock of the glottis is when the folds are locked together before producing a sound with a force of air
  - L. The epithelium is the outermost layer of the vocal folds. It consists of the lamina propria and thyroarytenoid muscle.

### Discussion

This chapter discussed the breathing and laryngeal mechanics in the voice, and the process of singing. It gave, in great detail, what parts of the body are used in breathing, singing, and the physiology of the voice. It explained what muscles are used when breathing, and how the entire system fits together to create a sound and the techniques that should be used to obtain the most efficient breath and sound. It was very interesting to me reading this chapter and noticing, as a singer, what is all involved when I am singing everyday. I have been told what muscles to use and what is happening when I am singing, but I can completely understand all of it now, seeing pictures and reading how the process works. I feel that when I am in my classroom, it will be beneficial to my students to know the basics of how the mechanics work, that way they can understand and not be confused like I was for a

while. Teaching them when they are younger what muscles and parts of the body are used when breathing will help them develop good breathing technique for future singing experiences. Same with the larynx, teaching them how the vocal folds vibrate and what muscles are involved will help them understand what they can be aware of when they sing. This chapter will help me greatly in figuring out if my students are singing correctly, and what I can do to help them improve their voices and breathing. Knowing the physiology of the voice will help me in improving my own voice, and understand the singing processes in my students as well.