

Kansas State University Libraries

## New Prairie Press

---

NPP eBooks

Monographs

---

2018

### Vocal Techniques for the Instrumentalist

Amy Rosine

Kansas State University, [arosine@ksu.edu](mailto:arosine@ksu.edu)

Follow this and additional works at: <https://newprairiepress.org/ebooks>

 Part of the [Higher Education Commons](#), [Music Education Commons](#), and the [Other Music Commons](#)



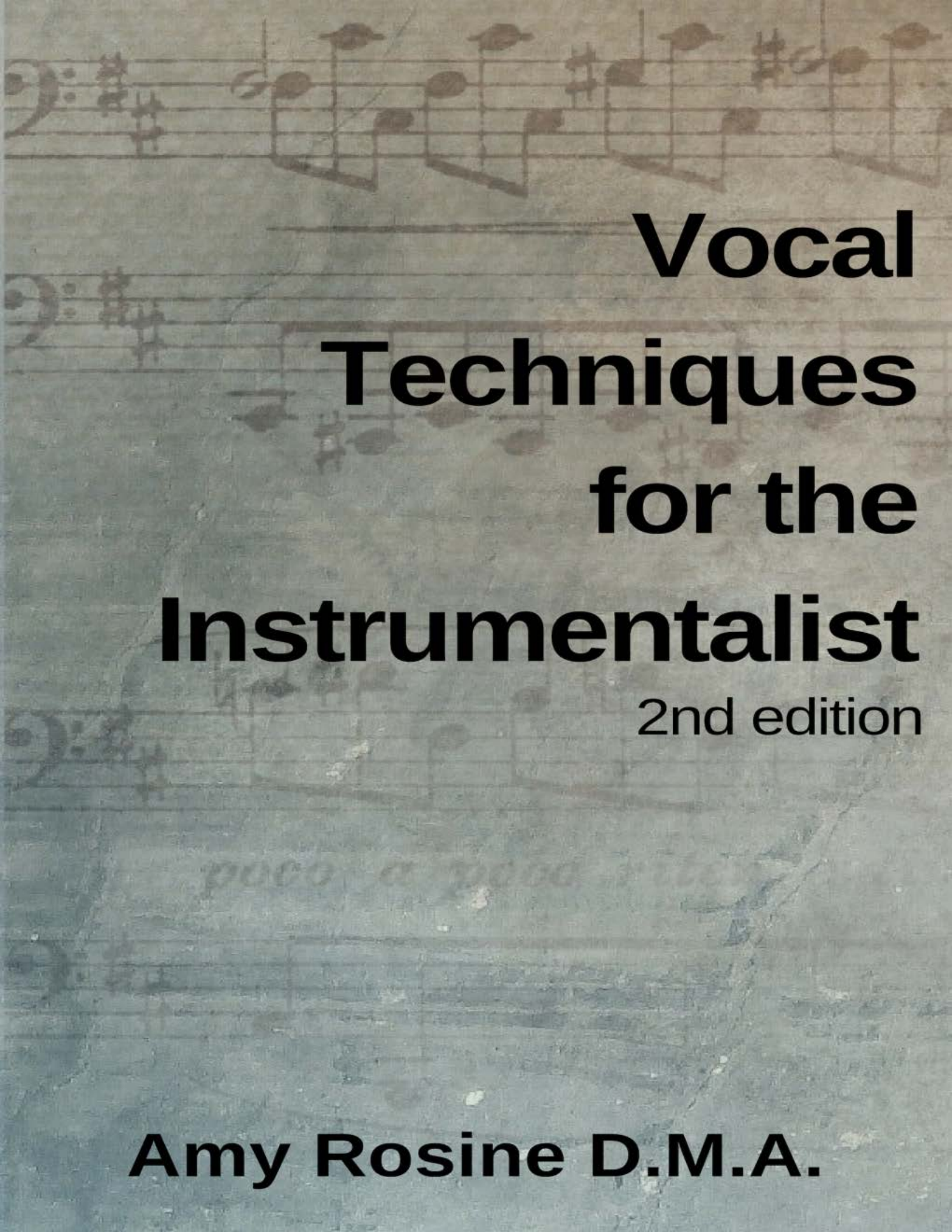
This work is licensed under a [Creative Commons Attribution-NonCommercial-Share Alike 4.0 License](#).

---

#### Recommended Citation

Rosine, Amy, "Vocal Techniques for the Instrumentalist" (2018). *NPP eBooks*. 25.  
<https://newprairiepress.org/ebooks/25>

This Book is brought to you for free and open access by the Monographs at New Prairie Press. It has been accepted for inclusion in NPP eBooks by an authorized administrator of New Prairie Press. For more information, please contact [cads@k-state.edu](mailto:cads@k-state.edu).



**Vocal  
Techniques  
for the  
Instrumentalist**

2nd edition

**Amy Rosine D.M.A.**

**VOCAL TECHNIQUES  
FOR THE  
INSTRUMENTALIST**

**Amy Rosine, D.M.A.**

2nd Edition

Copyright © 2018 Amy Rosine

New Prairie Press  
Kansas State University Libraries  
Manhattan, Kansas

Cover design by  
Kansas State University Libraries  
Background image courtesy of 1014404

Electronic edition available online at  
<http://newprairiepress.org/ebooks/>

This work is licensed under a Creative Commons  
Attribution-NonCommercial-ShareAlike License  
<https://creativecommons.org/licenses/by-nc-sa/4.0/>

ISBN-13: 978-1-944548-19-3

NEW prairie PRESS  
  
*open access scholarly publishing*



# Contents

Introduction		2
Chapter 1	Why are you here?	3
Chapter 2	Healthy Singing	6
Chapter 3	Motivation	9
Chapter 4	Learning and Performing Vocal Music	11
Chapter 5	Respiration	13
Chapter 6	Phonation	15
Chapter 7	Voice Range	19
Chapter 8	Resonance	22
Chapter 9	Articulation	26
Bibliography		34
Appendix A	Vocal Exercises	i
Appendix B	Practice Log	ii
Appendix C	Glossary	iii
Appendix D	Italian IPA	iv
About the Author		

# Introduction

Healthy vocal production is necessary for everyone in the teaching field. Vocal Techniques courses can help not only the singing voice, but vocal production in general. Speaking or singing for several hours a day is taxing on the voice and learning to use breath support when speaking and singing will help the voice withstand the demands of teaching. Healthy habits are also very important to vocal longevity. However, no voice is immune to overuse. Understanding how to use the voice and what to be aware of when vocal fatigue starts to set in is crucial to vocal health and stamina.

The purpose of this text is to teach instrumental music education students about vocal production as it applies to solo singing. Beginning with a foundational understanding of breathing, singers will learn about the vocal instrument (anatomy), how to create clear, pleasant, tone (phonation and resonance), pronounce words clearly (articulation) and how singing is similar, and different, from playing an external instrument.

Through exploration of their own unique instrument, students will learn to sing with confidence by performing in small groups, in front of the class, and in a final formal recital. Learning to sing a solo from memory and communicating with an audience will help students gain poise and confidence, which translates into a more confident teacher.

This text will discuss the application of the techniques of vocal production as it pertains to teaching young singers. Most music education students are licensed to teach K-12 music and regardless of whether they have an instrumental or vocal focus, the bulk of elementary teaching is working with singing voices. Many new instrumental teachers find themselves teaching choir in their first years. Having a general understanding of the voice will get them on the right track.

# WHY ARE YOU HERE?

---

*Humans are meant to communicate through speech and singing. Each person has a unique instrument, and the instrument is the body, which can make singing a very vulnerable process. Yet it is this very process that can help one develop into a poised, healthy and expressive individual. The main goal of this course is to identify your unique singing voice, strengths and weaknesses, and to find your true potential as a singer.*

---

WHAT ARE THE BENEFITS OF SINGING? (<https://musiccentral.co.uk/2015/09/15/why-sing/>)

One of the most obvious benefits of singing properly is that you will learn vocal techniques that will affect your posture, breath control and tone production.

~Singing strengthens concentration and memory

~Singing helps you develop communication skills

~Singing adds a rich and more pleasant quality to your speech

~Singing can help you stay healthy, widen your cultural understanding, expand your imagination and may even make you a happier person.

Music is the “universal language” and helps you to connect with your deepest emotions and to deal with difficult situations in a better and more optimistic way.

~Singing involves your body, mind and spirit

~Singing makes you feel better both emotionally and physically

~Singing can help reduce anger, depression and anxiety

SINCE THERE IS NOT AN EXTERNAL INSTRUMENT, WHAT DO I BRING TO CLASS?

*Experience* - even if you have little experience with solo singing, there are resources that you bring to class. The most important is knowledge and skill from past experiences with music and singing. Along with that comes memories from those experiences, general perceptions, attitudes and beliefs about singing.



*Tools* – There are a variety of tools and equipment necessary to aid in your growth as a singer. They include items for research (books, articles, library, computer), sheet music, recording device, pencil and notebook, piano and practice space.

WHAT ROLE DO MY PEERS PLAY IN THE LEARNING PROCESS?

To offer support and healthy competition

To provide constructive feedback during the learning process

To be an appreciative audience

Learning as much about the voice and singing process is in the best interest of future vocal music educators. The more knowledge and skills future teachers have about the vocal instrument, the more capable they will be in teaching themselves and others. The best recommendation is to study voice privately. Although there are many “self-teaching” resources available, reading text and watching videos cannot replace another set of human ears. It is easy to misinterpret information and there is a lot of incorrect information on the web. Young students can take one concept (i.e.: drop your jaw) to the extreme, thus impeding their process.

#### ASSIGNMENT

Fundamental Questions – write a letter to your instructor that addresses the following questions:

1. What are benefits that I hope to gain from this course.
2. What do I expect to learn?
3. Who has encouraged or discouraged me in the use of my voice?
4. Who are the singers I admire and why?
5. How do I perceive my own singing voice?

#### DEVELOP YOUR TEACHING SKILLS

**MUSIC STUDENTS MUST ASSUME RESPONSIBILITY FOR TEACHING THEMSELVES DURING STUDY TIME OUTSIDE OF CLASS/LESSON. MEETINGS WITH A PRIVATE INSTRUCTOR ARE GENERALLY ONCE OR TWICE A WEEK. THIS COURSE USES GROUP MEETINGS TO PROVIDE FEEDBACK BETWEEN CLASS MEETINGS.**



## PRODUCTION OF SOUND

All musical instruments have the first four elements in common in the production of sound. The fifth element is unique to singing. The following chapters of this text are based on these elements, and taken in part from *Adventures in Singing*, by Clifton Ware.

### *volition ~ motivator (mind-body connection)*

The brain and neurological system send commands to and receive messages from the body. Because the impulse behind all vocal sound is emotionally and mentally based, one must consider the role of the brain and nervous system as the motivator of the vocal process. Remember – “Think before you sing”

### *respiration ~ actuator (breath energy)*

Parts of body that aid in breathing coordinate to control the inhalation/exhalation of air for vocal tone

### *phonation ~ vibrator (creation of tone)*

The larynx consists of membranes, muscles, ligaments and cartilages that coordinate in managing airflow and adducting the vocal folds to create a fundamental tone (buzzing)

### *resonation ~ resonator (enhancement of tone)*

Combined resonance cavities (throat, mouth and nose) act as acoustical secondary vibrators for enhancing the fundamental buzz tone created in phonation.

### *articulation ~ articulators (shaping of tone into recognizable speech sounds)*

The organs of speech (tongue, jaw, cheeks, teeth, lips, hard and soft palates and dental ridges) coordinate in producing all sounds of verbal communication. This results in the in-depth study of diction (how languages are produced) by singers.

# HEALTHY SINGING

---

*Vocal ease and health go together. Solid technique, which is rooted in the body, is the foundation for everything you want to do with your voice.*

---

## PHYSICAL ALIGNMENT

Freeing your body has a direct relationship to your physical balance, energy, health, voice, breathing and image. A balanced, free, flexible posture is fundamental to efficient vocal production and pleasant voice quality. It keeps the muscles of the neck and back from excess tension. Let your stance feel easy, without locked knees or tension in shoulders or neck.

Posture is dependent on our spine, which is the main pillar of the breathing system. Aligning the breathing mechanism (chest, larynx, throat) is the starting point for healthy singing. Having the feeling of a long spine (and neck) enables the ribs to move freely upon inhalation and keeps the chest from collapsing when exhaling. Take a few breaths to release any tension you may be feeling.

More muscular energy is used when the body is out of alignment. A common postural habit that drains energy is pushing the head forward rather than aligning it over the shoulders. When the body is out of alignment the muscles react and this creates pain and injury.

### Muscles and Physical Alignment

The skeletal structure keeps the body from collapsing, much like the frame of a building. Skeletal muscles create movement of the body. Muscles cross over joints and shorten (contract) to move. When a muscle contracts a joint changes position. To contract and move in one direction, muscles from the opposite side of the joint must relax. Movement takes a signal of intent from the brain (volition), and when the signal stops, the muscle relaxes.

Muscular antagonism is the balance of muscle tension and relaxation between agonist (prime mover muscle group) and antagonist (opposing muscle group). It refers to the natural muscle opposition that occurs in physical activity. Too much tension in one muscle group inhibits ease of motion.

## EXERCISE: FINDING PARALLEL

Without looking down at your feet, stand with your feet parallel. Look down – if they are not parallel, align them into that position. How does this feel? Let your body get used to the feeling while taking deep easy breaths.

*from Ruth Hennessy: [www.hennessywholebody.com](http://www.hennessywholebody.com)*

## ENERGIZING THE BODY

The singer's body is much like that of an athlete. It needs to be conditioned for handling the physical and mental requirements of performing. Health is of prime importance to singers. Energy level is one measure that will help you be successful in your vocal study. Students with low energy levels tend to have more difficulty singing effectively. It is important to be aware of fitness and exercise, diet and nutrition and rest and relaxation. These have a profound effect on the singing voice and can be beneficial for all musicians.

Singing requires muscle coordination throughout the body. In the torso for breathing, the neck and larynx in creating sound, and the throat and mouth in forming words. Singers are highly dependent on their respiratory capacity and must learn how to optimize their ability for taking in air and managing it effectively. Many singers, especially young singers, either work too hard to inhale or do not use enough energy. Raised shoulders and noisy intake of breath are signs of excessive tension. Doing physical warm-ups before singing releases tension and creates energy.

## PHYSICAL WARM-UP

**RIB STRETCH:** Stretch arms toward the ceiling. Make sure your shoulders and neck do not become tense. While the arms are up, lean to the left, reaching the hands toward where the ceiling and wall meet. Feel your side lengthen as you stretch. Pull yourself back to center and stretch the other side. Focus on lengthening the side rather than pulling.

**RAG DOLL:** Bend over with your arms released and feel “floppy” like a ragdoll. Keep knees soft and neck released. Often students will pull the head up while bending over. A slight touch on the back of the neck will encourage the neck to release.

NECK STRETCH: Take your right hand and rest it on your head, allowing neck to bend to the right. Feel the weight of your hand moving the head rather than pulling the head to the side. Breath in and feel your neck lengthen on the exhalation. Allow the head to “float” back to center. Repeat with left hand on right side of head.

HEAD TURN: Turn your head to the left and right, slowly and easily. Can you vocalize while making this motion? Sing a 5-tone scale on “ah” and keep the head moving from side to side. Watch for any tension or stopping in the movement.

## VOCAL FATIGUE

It is normal to have bouts of vocal fatigue, but when the fatigue continues for several days that should be a warning. Several things can lead to vocal fatigue: overuse or incorrect singing, stress, exhaustion, dehydration, illness. Learn to identify what causes your vocal fatigue. Hydration is very important for singers – drink plenty of water and have a humidified environment. Be aware of medication you are taking and how the voice is affected, especially allergy or other sinus medication, which can be drying.

### *Signs of vocal problems:*

- Vocal fatigue for several days
- Loss or disturbance of tone, especially in the upper register and soft singing
- Intonation problems
- Hoarseness or breathiness
- Loss of vocal control
- Loss of Range
- Difficulty phonating

### *Causes of vocal problems:*

- TMJ/TMD (temporomandibular dysfunction)
- Reflux – acid indigestion
- Stress – emotional, psychological, physical
- Illness
- Hormonal conditions – PMS, thyroid conditions, menopause, pregnancy, puberty
- Vocal nodules
- Ulcers, Polyps, Cysts, Hemorrhaging

# MOTIVATION

## Mind Body Connection

---

*The brain and neurological system send commands to and receive messages from the body. Because the impulse behind all vocal sound is emotionally and mentally based, one must consider the role of the brain and nervous system as the motivator of the vocal process.*

---

### 3 SYSTEMS OF NERVE PATHWAYS THAT AFFECT THE VOCAL INSTRUMENT (Titze, 2010):

*Limbic System* - activated by emotions or environment; regulates autonomic responses such as breathing and heart rate, and primal sounds associated with fight or flight responses.

*Speech-Motor System* - controls articulatory movement; how words are formed using the lips, tongue, jaw, soft palate; processes spoken language and coordinates the timing of lips, tongue, jaw and laryngeal movement.

*Spinal-Reflex System* - controls the rhythm of breath flow; singing disrupts the natural rate of breath inhalation and exhalation. Other disruptors of breath include coughing, swallowing and yawning.

All musicians are affected by the three systems described above. Think of your major instrument and how each system is involved in playing. Do you get nervous? What are the signs? How do you respond to this? Communication through text may not be part of your playing, but the speech motor system is involved with embouchure and articulation of tone. What about breath? Like singers, all instrumentalists control breath differently from the normal rhythm of breathing. (Even those who do not play a wind instrument.) Since the voice is part of your body, the instrument is affected more by the three nerve pathways.

*When we get nervous the voice or body may shake, breathing can become shallow and the mouth gets dry. We may not be able to make a loud, energized vocal sound. **LIMBIC***

*Coordination of the lips, tongue, jaw and soft palate affect tone quality and the pronunciation of text. **SPEECH-MOTOR***

*Breath is the foundation of singing and learning to control something that is not controlled in daily life takes study and practice. **SPINAL-REFLEX***

## ATTITUDE IS EVERYTHING

Attitude affects your mind-body connection in singing. How you perceive singing and your own voice can affect how you approach learning to sing. Thinking back to the first Assignment, if there are experiences that either hinder or help your vocal study, how will these experiences affect how you approach singing? Singing text is telling a story, and you must be creative in how to bring that story to life.

*VOCAL EXERCISE: Appendix A, Exercise 1*

*Sing the vocal exercises with emotion indicated by the text. Experiment with different ideas. How does emotion affect the voice?*

## SPEECH TO SINGING

Speech and singing are functionally similar. Dynamic singing that is energized and projected requires more energy and an outgoing manner. Singing simple folk and popular songs is like ordinary conversation in regard to range, energy level and vocal quality. Full-voiced singing used in opera, oratorio and art song is more energized. The tone is warmer and fuller sounding. In this course, you will be developing the more energized sound.

**VOCAL EXERCISE: Speech to Singing**

*Speak the words “The sun is shining today” and progressively move from conversational speaking to singing. Pay attention to how your breath is used and if there is unwanted tension anywhere. Experiment with different attitudes. What happens to the pitch as you put forth more energy?*

*Conversational (mezzo-piano) – speaking to a friend*

*Elevated (mezzo-forte) – speaking to a class*

*Declamatory (forte) – stage speech*

*Speech-singing (recitative) – experiment with varied dynamics and pitch*

# LEARNING AND PERFORMING VOCAL MUSIC

---

*Solo singing allows you to shine and do your own thing. It can help you to develop your singing technique and confidence. Singing Increases your self-esteem and confidence, increases feelings of well-being, and can lift you up spiritually and emotionally.*

---

## SONG STUDY

As with studying any piece of music, effective learning requires separating the piece into specific components. The addition of text makes singing unique in this respect.

- Read background information on the song and composer. Appendix C includes a resource list.
- Study and read aloud the text for meaning and clear pronunciation. Speak the text with ease; not in rhythm. Get to know how the word and phrasal stress naturally falls.
- Make sure you know the meaning of every word in relation to the context of the text. Use a dictionary to find alternate meanings.
- Sing the melody without text or rhythm. This allows you find the shape of the melodic line without rhythmic parameters.
- Learn the melody and rhythm accurately and study the harmonic structure. Do cadences fall in line with punctuation? If you are familiar with the song make sure you are following the melodic and rhythmic indications of the arrangement you are studying.
- How do you sing the vowels compared to speaking? Circle any words that you are unsure of the vowel pronunciation when singing.
- Use appropriate dynamics.
- Make decisions on phrasing and breathing points - #2 will help with this.
- MARK YOUR MUSIC! A smart musician writes in the music.

## MEMORIZING SONG TEXT

Memorizing text can be easy for some, challenging for others. Here are some strategies:

- Write out the text and practice speaking the text OUTLOUD as a story, without rhythms or music. Use inflection, as if you are reading a story to children.
- Use rhyming words to trigger memory.



- Be aware of assonance (the same vowel sound) and alliteration (same consonants) to put words together. Composers use these two techniques to make text interesting to sing and listen to. Often it helps words “roll off the tongue.”

## SONG PERFORMANCE

Singers are obligated to present the musical and dramatic content of a song as intended by the composer and poet/librettist/author. However, authenticity is created by including elements of the singer’s personality and how he or she is affected by the music.

The following guidelines will help you perform with confidence:

- Enter the room or stage with confidence. Your body language will establish this.
- Walk to the “crook” of the piano (if a grand piano), or either the left or right of an upright piano; whichever puts you “center stage.”
- If the audience applauds as you enter, offer a sincere “thank you” bow.
- Calmly and clearly introduce yourself (if appropriate), the title and composer of your song.
- Take a moment to compose yourself – take a deep breath, release any tensions and focus on the song. Preferably you will be able to do this before walking onto the stage area (preferable)
- Let your accompanist know you are ready to begin – this can be communicated through posture, breath or focus. You can nod to the accompanist, but that is usually not necessary.
- Your main task is to deliver the meaning of the song – let this take over, and the technical processes will fall into place
- Stay involved in the performance until the final note of the song (this may be in the piano).
- After the performance acknowledge applause with a gracious bow.

*You need to practice performing. The final exam for this class is a public recital and you will use the skills learned this semester to present your interpretation of a song. Even if you never perform a solo song again, the experience of presenting a public recital will improve your confidence, posture and speaking voice.*

# RESPIRATION

## Breath Energy

---

*Wind players already know quite a bit about breathing, and like singers, concentrate on the exhalation phase when creating and sustaining tone. Percussion, keyboard and string players also use breath energy while playing, just in a different way. Think about your specific instrument and how your use of breath is similar, and different from singing.*

---

## BREATHING MECHANISM

### Skeletal Framework

The spine is main pillar of the breathing system and is attached to the ribs, which house the lungs and diaphragm. Keeping the spine long aids in ease of lung expansion and rib movement, which is essential to the coordination of the singing breath.


### Sublaryngeal System

The area below the larynx (sublaryngeal) includes the trachea, bronchi, lungs, diaphragm, and rib cage. Air enters through the mouth and nose and passes from the larynx into trachea, through two bronchi (branches) and into the lungs. The body equalizes outside and inside air pressure (the amount of air exhaled is equal to that inhaled). The lungs inflate more for singing, as we inhale more fully.

### Muscles of Breathing

The diaphragm, the second largest muscle in the body, is a dome-shaped muscle attached to the lower ribs and vertebrae that separates the thoracic cavity (chest) from the abdominal cavity. During inhalation, the diaphragm contracts and lowers. At the same time a partial vacuum is formed in the lungs and air rushes in. In daily breathing the diaphragm returns to its natural position quickly, pushing air out of the lungs. During singing, however, the singer must regulate the outflow of breath to sustain phonation over the duration of the musical phrase. This may be accomplished by contracting the abdominal muscles slowly and evenly. You can feel the movement of the ribs on the side of the torso and some of the abdominal movement, but you cannot feel the diaphragm itself. What you feel is the result of the diaphragm flattening and pushing down on the viscera.

**WATCH THIS SHORT VIDEO EXPLAINING THE MOVEMENT OF THE DIAPHRAGM:** [Diaphragm Video](#)



The intercostal muscles attach to ribs and aid in inhalation and exhalation by creating a balanced flow of air pressure. The ribs raise on inhalation and remain raised during exhalation. The external intercostal muscles elevate or expand the rib cage and the internal intercostals compress or contract the rib cage during exhalation.

The various abdominal muscles aid in controlled exhalation, breath support and help steady the tone when speaking and singing. They stabilize, or balance, the actions of inhalation and exhalation.

THE FOLLOWING VIDEO LINK ILLUSTRATES THE MUSCLES OF “FORCED” INHALATION, OR INSPIRATION. [Forced inspiration video](#)

## COORDINATING BREATH

Breathe easily and deeply, avoid the idea of taking a “big breath.” Thinking of taking a huge, filling breath often leads to raised shoulders and tension in the upper chest. Feel expansion around the lower half of the body (lower abdomen and ribs in back) and allow the rest of your body to remain “quiet”. Keep the nostrils open and inhale with a fresh breath. This will keep your nasal passageway open and ready to receive air.

Coordinating the breath should result in the following sensations. Keep in mind that not everyone is the same in what they feel.

- Full body connection from lower abdominals up to sternum
- Relaxed, open throat (not stretched horizontally, but a vertical “lifted” feeling)
- A focused, easy tone without a harsh or breathy onset
- Head vibrations felt mostly around the eyes and bridge of nose (not feeling like the tone is “in” the nose)

## VOCAL EXERCISES: Breathing

*Blow all air forcefully out of the body. Allow the body to equalize the pressure by inhaling naturally. Do you feel a deeper inhalation?*

*Inhale 4 counts ~ Suspend 2 counts ~ Exhale 4 Counts*

*Continue with the same inhalation and suspended phase, double the exhalation to 8 and then 16. Finally inhale 4 counts and go directly to exhalation phase. Modification – exhale on [s] or [v]*

*Sing a quick, clear “ah” sigh from a medium high pitch downward. Feel the action of your abdominal muscles, all around the mid body, as you sing. Don’t force any abdominal action, simply be “aware.”*

*“One hundred noses” - imagine a belt of 100 noses around the waist. Breathe in through every nose at once, feeling a fresh, complete, deep inhalation. The upper chest and shoulders should remain still, with little movement and no tension. (Wall, 1999)*

*Never Stop Breathing!*

*We often stop our breath during physical/mental actions.*

# PHONATION

Creation of Tone

## HOW VOCAL SOUND IS PRODUCED

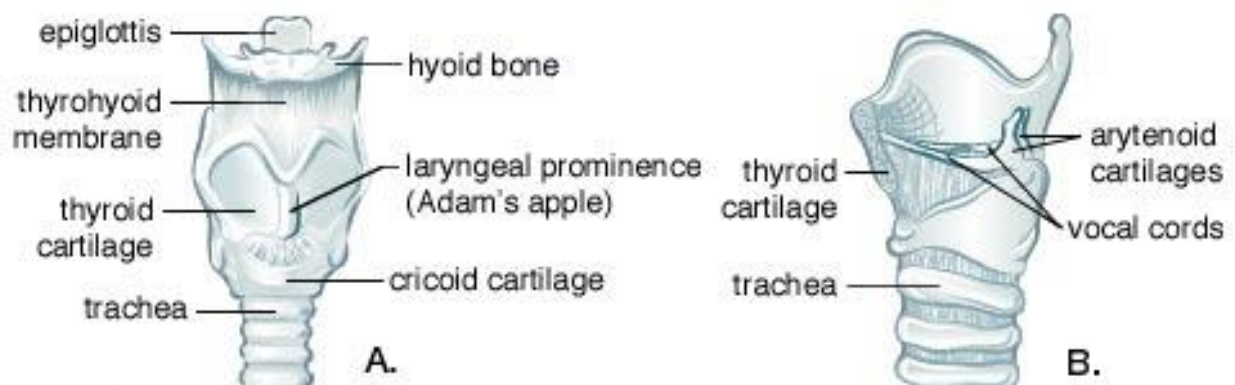
The **Vocal Tract** consists of the *larynx* and throat up to soft palate (*pharynx*). Sound is initiated by the vocal folds in the larynx.

### LARYNX


The main purpose of the larynx is to keep foreign matter out of the lungs and for thoracic pressure. Over time, it has been developed into an instrument of wide ranging expression. You can feel the thyroid cartilage (Adam's apple) at the front of your neck.

The larynx is made up of four cartilages and a bone:

- Thyroid cartilage
- Cricoid cartilage
- Arytenoid cartilages
- Hyoid bone



© 2006 Merriam-Webster, Inc.



As air flows through the larynx the vocal folds vibrate, and sound is modified and amplified in the vocal tract. Changing the position of the larynx affects the shape of the vocal tract, changes voice quality and affects the efficiency of the vocal folds. The cleaner and more efficiently the folds vibrate, the clearer and healthier the sound.

The larynx is suspended and supported in the neck by groups of paired muscles that are in front, behind, above and below. The larynx moves freely when we swallow and speak. It has a complex relationship with the throat, soft palate, tongue, jaw, neck and chest. The position of the neck and chest, movement and tension of the tongue and jaw, and flexibility or constriction of the muscles of the pharynx and neck all contribute to laryngeal efficiency and affect tone quality.

## MUSCLES OF PHONATION

The vocal folds are layers of muscle, and like all muscles they contract and relax. The primary muscle of the vocal folds is the *thyroarytenoid*, which runs from the front of the arytenoid cartilages (*vocal process*) to the inside back of the thyroid cartilage. To create sound, they *adduct* (come together). When we breathe, they *abduct* (open) and create space, called the *glottis*. To create higher pitches, they lengthen and become thin; for lower pitches, they relax and thicken. The arytenoid cartilages can move in several ways. They move the vocal folds apart and can create stretch. The other set of muscles are the *cricothyroid* muscles, which attach to the front of the cricoid cartilage and serve to lower the thyroid cartilage, causing the vocal folds to become thinner and longer. The folds then vibrate more quickly, producing higher pitches and a lighter tone quality.

### Onset (attack) – initiation of tone

When muscles of breathing, airflow and onset are well coordinated, the sound is clear, which is the ideal tone. Too much pressure creates a tense sound or glottal attacks. When folds do not come together efficiently the sound can be breathy.

[FOLLOW THIS LINK FOR ILLUSTRATIONS AND VIDEO OF THE LARYNX AND VOCAL CORDS.](#) [LARYNX](#)

You can scroll down and watch a live video of the vocal cords in action.

More information can also be found at [The Voice Foundation](#)

## FOCUSED TONE vs TONE PLACEMENT

A *focused tone* is the result of efficient vocal-fold vibration that is produced as the folds come together at their full length as air passes through.

- Too much air passing through the vocal folds when speaking or singing will result in a breathy tone.
- Too much sub-glottal air pressure on the folds will result in a pressed or tight tone. The vocal folds should vibrate naturally in response to airflow. Avoid trying to “make” sound happen.

*Tone Placement* refers to physical sensations a singer feels when the tone is free and easy. Generally, singers should feel “head” sensations above the roof of the mouth and avoid *making* the tone happen in the mouth and throat. This will result in unwanted tensions. There is a fine balance between encouraging the right tone and forcing it. This balance is achieved through consistent vocal exercise.

### Phonation Exercises

#### lip trill

*Trill the lips on one tone, then move the pitch up and down. You can sing phrases of songs on a lip trill to help with breath support.*

*If the lip trill is challenging, try saying “brr” as if you are chilled. Brass Players: the lips are much more relaxed than for the trumpet lip buzz. The air is what causes the trill, not pursing or tensing the lips.*

#### sigh-glide

*Sing “ah” from high to low with an easy, consistent tone. This is a controlled sigh, so the air is not pushed out all at once as in a regular sigh. You should not feel tension in the throat. You can also use “wee” and “oo” to achieve an easy, resonant sound. Let this be playful – don’t worry about a beautiful singing tone. The goal is easy and consistent.*



# IDENTIFYING VOICE TYPE

*What do I call my voice?*

When classifying classical or operatic singing voices, there are six basic voice types: bass, baritone, tenor, contralto/alto, mezzo-soprano and soprano, and then several sub-types within each. However, in choral music, there are four designated voice types: bass, tenor, alto and soprano. When the choral parts are divided, the parts are usually split into Soprano 1, Soprano 2, Alto 1, Alto 2, Tenor 1, Tenor 2, Baritone, Bass.

The operatic terms are best suited to collegiate, or mature singers, and should not be applied to young voices. Using the choral terms is more acceptable, and practical, in the school setting. You will find students who insist on labeling themselves but encourage them to sing in the entire vocal range. This will be to their benefit as voices will change.

There are many variables to consider when describing a voice type:

**range** – the lowest notes to the highest notes in the voice

**weight** – light voices are bright and agile; heavy voices are powerful, rich, and darker

**tessitura** – part of the range which is most comfortable to sing

**timbre** – unique voice quality and texture

**transition points** – areas where the voice changes from heavy to light

## Finding Your Voice Range and Type

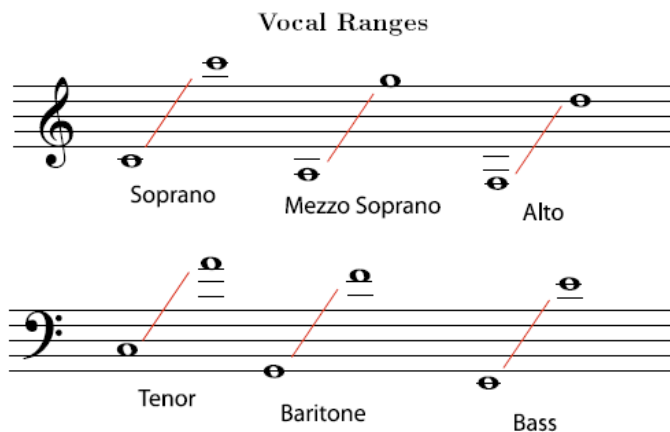
Voice type is determined mostly by where the most comfortable, resonant notes lie in the singing voice. However, many beginning singers have not sung enough to understand their true range. Although a female student may sing comfortably in the lower range, or “chest” voice, this does not mean she is definitely alto. If this student has never learned to access the higher/lighter register of the voice, then she does not know the possibilities of her range. All young voices should be encouraged to explore and expand their vocal range. In general, most beginning singers have a medium range voice. As you sing more and exercise the voice, you will extend the range.

A piano is the best way to find voice range. Simply sing as high and low as you comfortably can, vocalizing on a 5-note ascending and descending scale on “ah.” (See Appendix A, #14 for notated exercise) Using the designations E1, E2, E3, ect., for each octave on the keyboard, find your lowest and highest comfortable singing note.

VISIT THE WEBSITE BELOW AND READ THE INFORMATION ON VOCAL RANGE AND REGISTERS.

<http://www.singwise.com/cgi-bin/main.pl?section=articles&doc=UnderstandingVocalRangeRegistersAndType&page=1#vocalRangeFigures>

~This site offers information on different voice types (beyond what is discussed here) and gives pitch information on transitional notes. There is information on all aspects of singing, so if you like to “click and learn more” give yourself time to explore!



## REGISTERS

There are areas where you may feel a voice “break” or “shift” is the *passaggio*, or transitional area. Like other pitched instruments, the voice has areas that have similarities in sound and the way tone is produced.

According to Manuel Garcia, one of the first vocal pedagogues, “a register is a series of homogeneous (sounding the same) sounds produced by one mechanism, as distinct from another series of sounds equally homogeneous, produced by a different mechanism.” Garcia invented the first laryngoscope, and while observing the vocal folds during phonation he saw a certain configuration of the folds, which he referred to as “mechanism”. In other words, as a singer sang a scale the configuration of the folds would remain approximately the same up to a certain point, then alter visibly. When Garcia observed this, and at the same time heard a change in the tone quality of the sound, he concluded that he was hearing a change in register. (Garcia, 6)

With the transitional pitches, muscles have to adjust to the range being sung. Common terms for vocal registers are chest, head, modal, loft, mix, light and heavy. For consistency in this text, registration terms will be *light mechanism* and *heavy mechanism*. The reason these terms are preferred is that there is one vocal instrument, and each register influences the other. Along with light and heavy, commonly used terms for the extreme light, high ranges are *falsetto* for the male and *whistle*, for the female. While falsetto is generally achievable by all male voice types, whistle is not as accessible to the female.

There are several solid online discussions of *passaggio* and one that you may find helpful is on the website <http://www.vocalist.org.uk/passaggio.html>. However, be prepared to find that the more you read about registration, the more opinions you will receive!

#### Other web resources for vocal pedagogy:

National Association of Teachers of Singing [www.nats.org](http://www.nats.org)

~*The Journal of Singing*, published by NATS is a resource for all things singing.

Johns Hopkins Peabody Conservatory

[http://peabody.jhu.edu/wp-content/uploads/2017/07/online\\_vocal\\_pedagogy\\_resources.pdf](http://peabody.jhu.edu/wp-content/uploads/2017/07/online_vocal_pedagogy_resources.pdf)

~This downloadable resource offers links to several online resources on singing that include pedagogy, warm-ups, non-classical genres and the young singer.

Boston Singers' Resource

<http://www.bostonsingersresource.com/resources/vocal-health/links-resources/>

~Like the other sites listed here, there is a wealth of information related to singing, including speech and hearing clinics, which are a great resource for anatomy and images.

# RESONANCE

## Enhancement of Tone

---

*The voice was so resonant and beautiful, it filled the room.*

---

A *resonator* is any object through which a sound wave can be filtered, amplifying and modifying the vibrations. It is part of all vocal sounds, and singers use resonance to affect the intonation, vowels, tone qualities and dynamic levels of their singing. Changes in the size and shape of a resonating cavity will affect the tone quality. A resonator can make the tone light or dark, clear or muffled, brilliant or dull. Through vocal study, singers learn to form vowels that create optimal resonance and a desirable tone.

**There are two kinds of resonance, sympathetic and conductive.**

*Sympathetic* resonators have no physical contact with the vibrating source. Vibrations are received through the air and the resonator responds sympathetically. What the listener hears is a result of sympathetic resonance.

*Conductive* resonators vibrate as a result of physical contact with a vibrating body. Vibrations from the vocal folds travel along bones, cartilages, muscles of head, neck, upper chest, causing them to vibrate. However, these sensations have little to do with the external sound.

**Factors affecting Resonance:**

**size** – the larger the resonator, the lower the frequency (pitch) it will respond to.

**shape** – conical shapes amplify pitch indiscriminately, and resonance is affected by the length of the tube. Spherical shapes are affected by the amount of the opening and whether it has a lip.

**texture** – the composition and thickness of walls; for example, the material differences between brass and wood. Generally, the harder the surface the more selective it will be. Extreme hardness results in a penetrating tone with a few strong, high partials. Too much softness will result in mushy, non-directional tone.

## VOCAL RESONATORS

*Larynx* – the primary vibrator and also a small cavity. Only resonates for high frequencies and contributes to the “ring” of the professional voice.

*Pharynx* – the most important resonator due to its position and size.

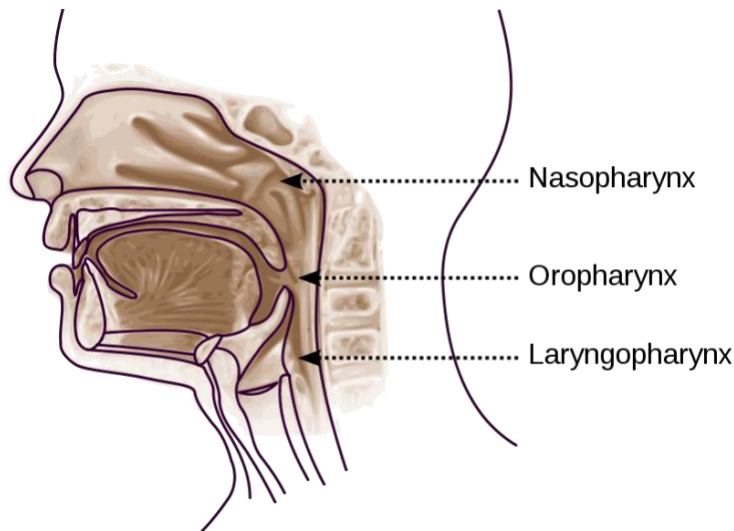
*Oral Cavity* – second in importance to the pharynx. Size is altered by the tongue, soft palate, jaw and lips.

*Nasal Cavity* – third in importance and essential for [m], [n], [ŋ]. This is not an adjustable cavity, but it can be taken in and out of the resonance system by the action of the soft palate.

### PHARYNX (vocal tract)

The quality of sound depends on the shape of the pharynx, which is very flexible and capable of forming many different shapes. The pharynx is pulled up (along with the larynx) when we swallow. The throat becomes short and narrow. When the muscles relax, the space is wide and long, the optimal size for the most resonance and freely produced sound.

The pharynx, or *vocal tract*, is made up of the mouth, nose and throat. These cavities are the *oropharynx*, *nasopharynx* and *laryngopharynx*. The laryngopharynx extends from the base of the cricoid cartilage to the top of the epiglottis. The oropharynx extends from the top of the epiglottis to the soft palate (*velum*). Together they form the largest resonating cavity. The nasopharynx is above the soft palate.



MORE INFORMATION ON THE VOCAL TRACT CAN BE FOUND AT THE WEBSITE

<https://www.voicescienceworks.org/vocal-tract.html>

## VOWELS and ARTICULATORS

Singers must develop flexibility in singing vowels. Vowels are the core of every syllable and without a resonant vowel the tone will not carry. The main vocalizing vowels are *ah*, *ay*, *ee*, *oh* and *oo*. Other vowel sounds may be used, but singers usually begin with these five, which are pure vowels. You may find that some vowels are easier to sing than others – this is a result of resonance.

### JAW

The jaw should hang down comfortably for singing. This may be a challenge for clarinet, trumpet and flute players due to the nature of the embouchure. Think about how the position of your jaw when you play your instrument and how that position compares to singing.

### LIPS

The lips are the outer edge of the mouth and can affect tone quality quite a bit. The vowels *oh* and *oo* are called “lip” vowels and the shape of the lips directly affects the vowel sound. Have a clear idea of how these vowels are formed.

## TONGUE

The tongue is a large muscle that can move many ways. Wind players use their tongue for a variety of articulations. In singing, the back, tip and body of the tongue are all used. With the tip of the tongue resting behind your bottom teeth, you can put the tip of your finger on the body of the tongue and say *ah*, *ay*, *ee*, *oh*, *oo*. Feel the movement of the tongue for each vowel. See Appendix A for vocal exercises that focus on the tongue.

## SOFT PALATE

The soft palate and lower and raise to close and open the air pass away into the nose. English uses a lowered soft palate for three sounds *m*, *n* and *ng*. All other vowels and consonants are formed with the soft palate raised. A nasal tone is not desirable for vowels; it sounds twangy and pinched and vibrations are felt in the nose. You can experiment by singing a twangy *ah* vowel and pinch the nose. The sound will be felt in the nose and will sound small and pinched. Next, sing an open *ah* and pinch the nose. The vowel should feel and sound no different.

### VOCAL EXERCISE: Resonance

*[ŋ] like sing, ring Make sure tongue is arched and loosely touching the hard palate and not pushed into the soft palate (too far back).*

### DISCOVERY EXERCISE

How are your articulators engaged when you play your instrument? How can this affect singing?



# ARTICULATION

*Words are meant to be heard and understood –  
this is what sets the singer apart from the instrumentalist.*

---

*Articulation* refers to the mechanics of producing speech and involves the movement and adjustment of speech organs (lips, tongue, velum, cheeks, jaw, larynx) to produce a specific sound or *phoneme*. A phoneme is one specific articulatory movement, such as forming the vowel [i] or the consonant [b]. Words are formed by groups of phonemes.

**Terms associated with articulation as it relates to speech:**

ENUNCIATION – act or manner of pronouncing syllables, words or sentences clearly

PRONUNCIATION – the act or result of uttering phonemes, syllables, words and phrases in a correct manner.

DICTION – the use of words and comprehension in a specific language, in an understandable manner or style.

Composers are diligent in choosing song texts. It is the job of the singer to communicate the composer's intent to the audience. The three terms above contribute to how one can make words understood. Often sung text is poetic and symbolic, which can be a challenge for the audience (and singer) to understand. Because of this, singers are tasked with making text understandable while producing beautiful sounds. This can be quite a challenge, especially with the English language.

Professional singers must sing in several languages and they study diction to help them. Diction courses teach singers how to sing in different languages. This cannot replace studying the language itself, but it is a beneficial tool for singers. When studying diction, students learn the International Phonetic Alphabet (IPA) to aid in pronunciation. IPA is a worldwide standardized system for transliterating speech sounds into phonetic symbols. It is also a useful tool for English singers to identify the correct way to pronounce vowel and consonant sounds when singing in their native language.

You will find that the way words are spoken, and the way words are sung can be quite different. The main reason is that you must sustain vowels in singing and use more clarity in pronouncing consonants. Regional differences also affect the way words are spoken and sung. Vocal pedagogue Shirlee Emmons stated, "It is very easy to have what is known as good diction while singing poorly; the real trick is to have good diction while not letting it interfere with good singing.


***Although all languages can be sung, the study of classical solo singing focuses on the following languages:***

***English, Italian, Latin, Spanish, German, French***

## Pronunciation

A common issue with understanding words is simply incorrect pronunciation. Class members will say the following words. Do you hear differences in the way your classmates pronounce a word?

ten  
miracle  
accompanist  
policeman  
umbrella  
when  
roof  
ecstatic  
wash  
clothes  
crayon  
mischievous  
malevolent



In this space, write down words from your song selections that you are unsure about the pronunciation. Include words that you know how to pronounce correctly, but are unsure how to sing the vowels. This will make you more aware of the differences between speaking and singing vowels.

## VOWELS

Vowels are produced without any vocal tract constrictions. Since most singing occurs on vowels, students begin vocal study learning to form vowels accurately. There are subtle differences in vowels that can be affected by several things:

- individual characteristics of a vowel
- individual differences in articulating organs
- gender differences
- range in the voice
- dialects or accents
- dynamic level

This text first introduced the “vocalizing” vowels: ah, ay, ee, oh, oo. The IPA symbols for these are [a, e, i, ɔ, u], which come from the Italian language. The study of singing began in Italy, and Italian pure vowels are best for easy tone production. Other vowels may be used, and are encouraged, but mastering the five basic vowels will give you a strong foundation.

***The tongue is the most important factor in varying the size of the vocal tract resonator for vowel formation.***

English vowels can be problematic because there are so many and hearing the difference in vowel sounds can be difficult. Thinking back to the word list above, did you hear a difference in the way students pronounced the word “ten?”

Speak the following words one line at a time, making vowel sounds clear, but not exaggerated. Be aware of the subtle movement needed to make each vowel clear.

seat	sit	set	sat
cot	cold	cough	calf
fool	full	fill	fell

## VOWEL MODIFICATION

Vowels must be modified by slight physical adjustments when one is singing from low to high range. It occurs primarily when negotiating the transitional notes at register shifts (*passaggio*), especially with higher notes. Sing a scale on the vowel [i]. Sing as high as you comfortably can and notice the natural space that occurs. This is vowel modification. Sometimes a voice instructor will tell students to modify the vowel they are singing in order to create more space inside the mouth. In order to achieve the desired sound, it is important that the instructor use clear language *and* the student understands what is being asked.

# IPA SYMBOLS FOR AMERICAN ENGLISH

International Phonetic Alphabet symbols represent one phoneme (sound) or articulatory movement. Although many look and sound like regular orthographic (written) letters, there are several that have unique symbols representing the sound.

## VOWELS

### Pure Vowels

[ɑ]	f <u>a</u> ther
[a]	h <u>o</u> t
[æ]	c <u>a</u> t
[ɪ]	s <u>i</u> t, <u>i</u> mprove, believe
[i]	r <u>e</u> al
[ɔ]	c <u>a</u> ught, <u>a</u> utumn
[o]	s <u>o</u> ld, m <u>o</u> re
[ʊ]	f <u>oo</u> t
[u]	cl <u>u</u> e
[ʌ]	s <u>u</u> n
[ə]	<u>a</u> bove [əbʌv]

### Diphthongs (*emphasis is on the first vowel*)

[aʊ]	h <u>ou</u> se, <u>ow</u> l
[aɪ]	s <u>igh</u> t, a <u>is</u> le
[ɔɪ]	j <u>oy</u> , b <u>oi</u> l
[eɪ]	w <u>ei</u> gh, <u>a</u> ble, <u>ai</u> m
[oʊ]	k <u>no</u> w, <u>se</u> w

### Semi-Vowels/Glides

[j]	y <u>ou</u> , <u>u</u> se
[hw]	<u>w</u> hich, wh <u>e</u> re
[w]	<u>w</u> ant, w <u>i</u> th

### R-Colored Vowels

[ər] (unstressed)  
father, water

[ɜr] (stressed)  
bird, word, early



## VOWEL CLASSIFICATION

Tense/Close

[i] [e] [a] [o] [u]

Lax/Open

[ɪ] [ɛ] [ɑ] [ɔ] [ʊ]

### “Nasty” vowel [æ]

This vowel is useful for vocalizing when tone is breathy, weak, dark or back. However, make sure the vowel is being produced correctly and not too tense. Singers can gain strength, brilliance and projection with [æ] and [ɛ] followed by [a] or [o].

### Neutral Vowel [ə] “schwa”

General rule – the vowel that occurs at the end of words, and unstressed syllables in multisyllabic words, are often thought of as neutral sounds because they are not sustained vowels. However, in singing they must be sustained, so the vowel is modified to create a more pleasing tone than “uh.”

## CONSONANTS

[ɹ]	<u>r</u> ea <u>l</u> , str <u>ai</u> n	Voiced/Unvoiced Pairs	
[z]	<u>z</u> oo, word <u>s</u>	[b]	[p]
[θ]	<u>th</u> ing, pat <u>h</u>	[ʒ]	[ʃ]
[ð]	<u>th</u> is	[dʒ]	[tʃ]
[dʒ]	<u>j</u> ar	[z]	[s]
[tʃ]	<u>ch</u> ain, ach <u>ie</u> vement	[v]	[f]
[ŋ]	<u>si</u> ng	[ð]	[θ]
[k]	<u>c</u> at, <u>k</u> itchen, <u>q</u> uick	[d]	[t]
[ʃ]	<u>sh</u> oe, <u>s</u> ash, <u>n</u> ati <u>o</u> n	[g]	[k]
[ʒ]	garage, collage (soft sound)		

The following consonants are all pronounced as the orthographic (written) letter:

[b],[d],[f],[g],[h],[k],[l],[m],[n],[p],[s],[t],[v],[w],[z]

Each IPA symbol represents all spellings of the same sound.

cat = [kæt]      kid = [kɪd]      quit = [kwɪt]

## TYPES OF CONSONANTS

Plosive (stop-plosive) [p], [b], [d], [t], [g], [k]

The air flow is completely prevented from passing through the mouth or nose and then released suddenly.

Fricative [f],[s],[v],[z],[ʃ],[ʒ],[ð],[θ]

The airflow is partially interrupted, producing a noisy sound.

Nasal [m],[n], [ŋ]

The vocal tract is blocked within the oral cavity, but the dropped soft palate allows air to travel through the nasal passageway.

Lateral [l]

The tongue tip lifts to touch the teeth and teeth ridge and the breath flows past one or both sides of the tongue.



Glide [j,] [w] [r] (same as semi-vowel)

The sound is created by movement of the articulators from one position to another

you [ju], music [mjuzɪk]

quite [kwaɪt], quick [kwɪk]

right [raɪt], rest [rɛst]

Affricative (Combination Consonant) [tʃ], [dʒ]

The sound is produced by a stop-plosive followed by a fricative consonant, forming a single sound.

**Identifying types of consonants by manner of production.**

BEAUTIFUL TONES RISE FROM HER THROAT.

voiced:           **b,s**  
unvoiced:        t,f,th  
fricative:        **f,th**  
lateral:           l  
nasal:            m,n  
approximate:    r

## IPA PRACTICE WORDS

Thermometer

Singer

Thy

Drink

Eyes

Lovely

Comfort

June

Without

Fountains

# BIBLIOGRAPHY

Dayme, Meribeth. *Dynamics of the Singing Voice*. New York: Springer Wein 2009.

Garcia, Manuel. *Treatise on the Art of Singing: A Compendious Method of Instruction with Examples and Exercises*. Boston: Oliver Ditson Company, 1800.

Hennessy, Ruth. [www.hennessywholebody.com](http://www.hennessywholebody.com)

McKinney, James C. *The Diagnosis and Correction of Vocal Faults*. Long Grove, IL: Waveland Press, Inc. 2004.

Miller, Richard. *Solutions for Singers: Tools for Performers and Teachers*. New York: Oxford University Press, Inc., 2004.

Tltze, Ingo R. PhD. *Fascinations with the Human Voice*. National Center for Voice and Speech, 2010.

Wall, Joan and Pamela Stout. *Sing! Text and Songs for Voice Class*. Redmond, WA: Caldwell Publishing Company, 1999.

Ware, Clifton. *Adventures in Singing*, 4<sup>th</sup> Edition. Columbus, OH: McGraw-Hill, 2008.

*Mosby's Medical Dictionary, 8th edition*. S.v. "vocal cord." Retrieved December 6 2016 from <http://medical-dictionary.thefreedictionary.com/vocal+cord>

*Medical Dictionary*. S.v. "vocal cord." Retrieved December 6 2016 from <http://medical-dictionary.thefreedictionary.com/vocal+cord>

Exercise #1

**accel.**  
keep open space in mouth and move quickly

I Love to sing      You are quite odd...yes you real-ly are.      This pat - tern      makes me tired!      Do I real-ly have to      go?

hmm \_\_\_\_\_  
sing with easy tone and relaxed tongue,  
feeling space inside mouth

yah yah yah yah

"ah" from high to low

ma ma ma ma ma      ma\_ ma\_ ma\_ ma      ah \_\_\_\_\_  
va va va va va      va va va va va      oo \_\_\_\_\_  
ee \_\_\_\_\_

H hah      ha      ha      ha      ha      yah/ah      yah \_\_\_\_\_

Works onset. "H" avoids tendency toward glottal attack

slide from high to low, then sing legato  
in second measure

mi \_\_\_\_\_ me \_\_\_\_\_ ma \_\_\_\_\_  
vi \_\_\_\_\_ ve \_\_\_\_\_ va \_\_\_\_\_

Allow jaw to drop and remain uninvolved during pitch changes.

[a e i o a]      [æ a]      [ε ɔ]      wee wee wee wee wee wee wee      [v] \_\_\_\_\_  
[e i a o u]      [æ a]      [ε ɔ]      allow lips to move forward in an exaggerated motion  
but avoid pulling to the side in a smile.      [ð] \_\_\_\_\_

[si a o i]      [i i i i i i a a a a a]      same articulation as previous measures      [u \_\_\_\_\_]

i \_\_\_\_\_ a \_\_\_\_\_      [i \_\_\_\_\_ a \_\_\_\_\_]      [a e i ɔ u]      sing very legato, connecting from note to note tall vowel space



## GLOSSARY

**alveolar ridge:** upper dental ridge where speech sounds occur when the tip of the tongue touches it. (d, l, t)

**appoggio:** development of a coordinated, dynamic balance among the processes of respiration, phonation, and resonance in singing.

**articulation:** physiological process of producing consonants in speech and singing.

**articulators:** speech organs (jaw, tongue, lips, teeth, soft palate and hard palate) that work to modify the acoustic properties of the vocal tract (form consonants and vowels).

**arytenoid cartilage:** two matching pyramidal-shaped cartilages connecting the larynx and the arytenoid muscle that act as the primary activators in phonation.

**aspirate:** articulation of a speech sound with audible friction. (the use of “h” for airflow)

**bel canto:** literally “beautiful singing” in Italian. Refers to a vocal style that emphasizes purity of tone and flexibility; originated in 17<sup>th</sup> century Italy and remained strong through the first part of the 19<sup>th</sup> century.

**breath management:** efficient handling of the breath cycle in producing vocal tone.

**chest register (chest voice):** heavy voice mechanism (register) existing primarily in the low vocal range and marked by sensations of vibrations in the chest.

**chiaroscuro:** “bright-dark” tonal characteristics of a dynamically coordinated and balanced voice.

**consonant:** speech sound created when articulating organs obstruct breath flow.

**cricoid cartilage:** lower circular cartilage of the larynx located at the top of the trachea.

**cricothyroid muscles (cricothyroids):** muscles that attach to the front of the cricoid cartilage and serve to lower the thyroid cartilage in assisting the adjustment of the vocal folds for higher pitches. (head voice registration)

**diaphragm:** large dome-shaped partition comprising muscle tendon and sinews: facilitates breathing and separates the abdomen from the thorax (chest).

**diction:** language pronunciation

**diphthong:** combination of two vowel sounds on one syllable (sigh, house, say)

**enunciation:** act of pronouncing syllables, words or sentences in an articulate manner.

**epiglottis:** leaf-shaped cartilage located between the root of the tongue and the entrance to the larynx; responsible for protecting the larynx from foreign matter (food) that could get into the lungs.

**formants:** regions of prominent energy distributions (overtones) in a vocalized tone that determine the characteristic qualities of vowels, as well as individual vocal quality.

**fundamental:** lowest frequency of a complex sound wave, the frequency of which usually determines what is perceived by the listener as pitch.

**glottal attack:** vowels voiced with a sharp onset (attack) by building up breath pressure and releasing it abruptly in either a gentle or harsh manner.

**hard palate:** anterior bony portion of the roof of the mouth.

**hyoid bone:** u-shaped bone located at the base of the tongue and at the top of the larynx.

**inhalation (inspiration):** the part of the breath cycle when air is taken into the lungs.

**intercostal muscles:** (external and internal) three sets of muscles between the ribs that control their raising and lowering.

**larynx:** an organ of the respiratory tract situated in the throat and neck above the trachea (windpipe); composed of cartilage and muscles and containing a pair of vocal folds that vibrate to produce vocal sound.

**lieder** (plural for **lied**): German art song.

**messa di voce:** to crescendo and decrescendo a sustained pitch (tone) from soft-to-loud-to-soft dynamic levels.

**mixed (middle) register:** blending and dynamic balancing of chest and head register (heavy and light mechanism) in the middle range of the voice.

**muscular antagonism:** anatomically, a balanced tension created when a muscle or muscle group opposes the primary countermovement of the agonist muscle or muscle group.

**nasopharynx:** The area of the vocal tract located above the velum (soft palate) and extending to the nostrils.

**onset:** initiation of the vocal fold vibration in response to airflow.

**overtones:** upper harmonics that, in conjunction with the fundamental, make up a complex musical tone.

**pharynx (throat):** the portion of the vocal tract and alimentary canal situated immediately behind the mouth and esophagus, comprising three connecting chambers: laryngopharynx (just above the vocal folds), oropharynx (from the hyoid bone to the end of the soft palate), nasopharynx (directly behind the nose and above the soft palate).

**phonation:** vibration of the vocal folds to produce sound.

**phonemes:** small unit of speech sounds (vowels or consonants) that are part of a language.

**placement:** subjective term used to describe vibratory sensations experienced during singing.

**plosive:** speech sound caused by a complete stop, closure and release of air by the glottis or articulators. (b, p, t, d, g, k)

**range:** the distance between the highest and lowest notes of a song or voice.

**register:** series of consecutive, homogeneous tone qualities, the origin of which can be traced to a special kind of muscle action.

**resonance:** spontaneous reinforcement and amplification of tonal vibrations (energy) occurring whenever a cavity is tuned to the natural fundamental frequency (pitch).

**respiration:** exchange of internal and external gasses during the complete breath cycle.

**singer's formant:** the desirable tonal "ring" produced by a singer whose formants form a peak in the spectral envelope at around 2500-3200 Hertz.

**soft palate (velum):** muscular membrane in the roof of the mouth behind the hard palate.

**strap muscles:** muscles connecting the hyoid bone (above these muscles) to the sternum below, and connecting to the pharyngeal musculature behind; they function to stabilize the larynx.

**subglottic:** below the glottis.

**tessitura:** particular range of a composition (song or aria) that is most consistently used, as opposed to the total range of compass of a composition; also refers to the comfortable singing range of the voice.

**thorax (chest cavity):** that portion of the torso situated between the neck and the abdomen which houses the breathing organs within the framework of the ribs, costal cartilages and the sternum.

**thyroarytenoid muscles (thyroids):** The paired muscles that form the main body of the vocal folds, originating below the thyroidal notch and inserting into each arytenoid cartilage; associated primarily with chest voice registration.

**thyroid cartilage:** largest cartilage of the larynx.

**trachea:** commonly referred to as the windpipe.

**triphthong:** combination of three vowel sounds on one syllable. Common in Italian.

**vocal folds:** lower part of the thyroarytenoid muscles, also called the “true folds, bands or cords.”

**vocal tract:** the combined vocal resonators, extending from the vocal-folds in the larynx to the lips; encompassing the laryngopharynx, oropharynx, and nasopharynx.

**vowel modification:** vowel adjustments made to accommodate pitch levels throughout a singer’s full vocal range; allows for tone equalization.

**zona di passaggio (zone of passage):** series of pitches in the middle voice where several tones can be sung with varying register principles. Includes two pivotal zones at the bottom and top of the middle range where the register shift occurs.



## IPA SYMBOLS FOR ITALIAN

### Vowels

Italian vowels are pure, no diphthongs as in English.

<u>Italian word</u>	<u>English sound</u>
[ɛ] terra	t <u>e</u> ll
[e] fide <u>l</u> e	cha <u>o</u> tic, way (without diphthong)
[a] ca <u>r</u> o	ha <u>r</u> d
[i] m <u>i</u> o	m <u>e</u>
[o] sospira	so <u>l</u> d
[ɔ] sog <u>l</u> io	so <u>f</u> t
[u] fu <u>g</u> gire	fo <u>o</u> l

### Glides

[j] piangere, piu	<u>u</u> se
[w] questo	qu <u>u</u> ick

**Consonant symbols** that differ from the orthographic (written) symbol

- Italian consonants are very soft, not aspirated as in English [t], [k], [p] – they implode rather than explode
- [d] and [t] are dental consonants – the tongue stays behind the front teeth
- Double consonants (sebben, fuggite, donzelle, batti) – “stick” the consonant without stopping the flow of the phrase.

	<b>ITALIAN</b>		<b>ENGLISH</b>
[k]	ca <u>r</u> o, <u>ch</u> e		ca <u>t</u>
[ʃ]	lasci <u>at</u> emi		sh <u>ell</u>
[tʃ]	ci <u>el</u> o		ch <u>oo</u> se
[dʒ]	gi <u>u</u> ro		ja <u>r</u>
[ʎ]	vogli <u>o</u> , egli <u>l</u> i	(elya)	“hea <u>l</u> <u>y</u> e”
[ɲ]	sogn <u>o</u>	(enya)	on <u>i</u> on
[ŋ]	an <u>k</u> ora		an <u>k</u> le
[r]	ca <u>r</u> o	(flipped r)	
[rr]	crude <u>l</u> e, amor <u>o</u>	(rolled r)	

## CARO MIO BEN

IPA: [karo mio bɛn, kɾɛdimi almen, sɛntsa di te laŋgwiʃʃe:il kɔr]

**Text** **Caro mio ben, credimi almen senza di te languisce il cor.**

Word-for-Word: dear my beloved believe-me at-least without of you languishes the heart.

Paraphrase: My dear love, believe me at least, without you my heart languishes

IPA [il tu:o fedel sospira:ɔnɔr tʃɛssa krudɛl tanto rigor]

**Text: Il tuo fedel sospira ognor, cessa crudel tanto rigor!**

Word-for-Word: the your faithful-One sighs always. cease, cruel-one so-much severity!

Paraphrase: Your faithful one sighs always. Cease, cruel one, so much punishment!

# About the Author

Amy Rosine is Associate Professor of Music at Kansas State University. She teaches applied voice, vocal techniques, and serves as vocal coach for the K-State Players Broadway musicals. She holds degrees from University of Kansas (DMA), University of Missouri-Kansas City (MM), and Truman State University (BME). Voice teachers include Inci Bashar, Norman Paige and Kathleen Dawson.

An active recitalist, performing has taken her to the Czech Republic, where she performed vocal recitals in Dobřichovice and Český Krumlov with pianist Jaroslav Šaroun, from the Music Academy of Prague. She has also performed in Mercatello sul Metauro, Italy, as a faculty member of International Opera Performing Experience. Rosine collaborates with Dr. Sandra Mosteller as the Sorores Duo, and together they present programs of music for soprano and clarinet. They have been featured performers at the Sigma Alpha Iota National Conventions in Orlando, Chicago and Phoenix, West Central Regional NATS Conference, and Great Plains CMS Conference. Rosine premiered 5 songs of E.E. Cummings, written for her by composer Robert Tucker.

Visit her professional website <http://arosine.wixsite.com/amyrosine>.