CMAA Summer Courses 2024

Vocal Training Intensive

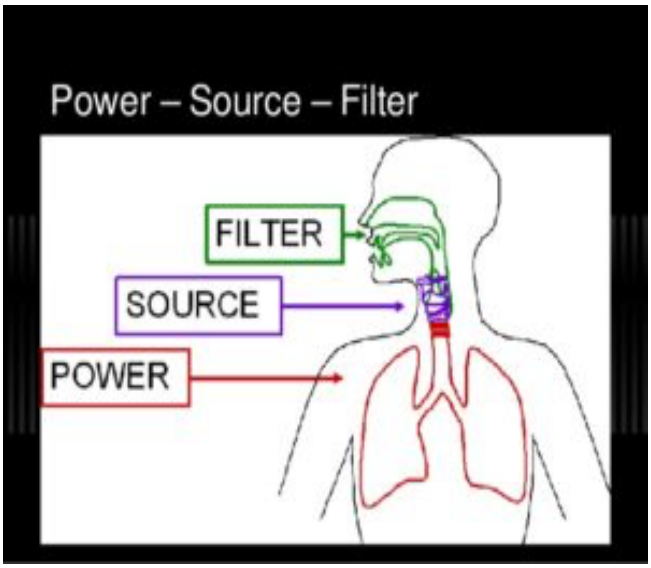
Presented by

Dr. MeeAe Cecilia Nam

"What earlier generations held as sacred, remains sacred and great for us too…"
Pope Benedict XVI (7 July 2007)

Introduction – Vocal Processes

- Overview of types of processes involved in phonation (making a vocal sound).
  1. Respiration
  2. Phonation
  3. Resonation
  4. Articulation



Body alignment for singing

"Your body is your instrument!"
"Think of your body like a chain"

Five good reasons for establishing good body alignment

1) Fulfilling the basic functions of the skeleton and the muscles of the body.
2) Fulfilling the functions of the breathing mechanism with efficiency.
3) Facilitating the functions of the vibrator (vocal folds) and resonators.
4) Psychological asset to a singer.
5) Positive reaction from an audience.
6) The general overall health of the singer is benefited from having good posture.

Checklist of alignment / common tensional faults.

1) Head tilted to right or left, front or back-
2) Chin too high or too low
3) Raised shoulders or one higher than the other
4) Slumping posture with a collapsed chest
5) Protruding abdomen and/or buttocks
6) Too much curvature in the small of the back
7) One hip more prominent than the other
8) Knees pulled too far back
9) Feet too far apart or too close together
10) Rigidity
11) Shaking, quivering

The muscles in the neck around the spine called the "erector spinae" (posterior extensors of the back) affect the larynx. Its role is to maintain the upright position of the body. (Sataloff)

Importance of the head posture:

- Forward Head posture and the voice: one of the most common errors.

  - Feel the tension on the back (the bottom of the skull) and the front of the neck.
  - Do not lose the natural curve of the cervical spine. The neck extensor muscles will struggle to hold your head up.
  - You can lose 30% of vital lung capacity.

  - To do:
    - Observe the neck and the shoulders.
    - Align the ears over the shoulders.

- The hyoid bone is really important; only a bone in the neck. The larynx is suspended from it. Thus, it will impact the voice. Emphasis on the head posture is to observe the neck and the shoulders. Imagine sliding the hyoid bone back.

Helpful Source:

Robert T. Sataloff, J. Rubin, L. Mathieson, E. Blake, "Posture and Voice," NATS Journal, January/February 2004, p.271-275

Vocal posture and alignment
https://www.youtube.com/watch?v=59rYK-lNUKs

Forward head posture and the voice
https://www.youtube.com/watch?v=YbV8D--qnSQ

Vocal Yogi videos (Sarah Whitten)
https://www.youtube.com/c/TheVocalYogi/videos

Note:

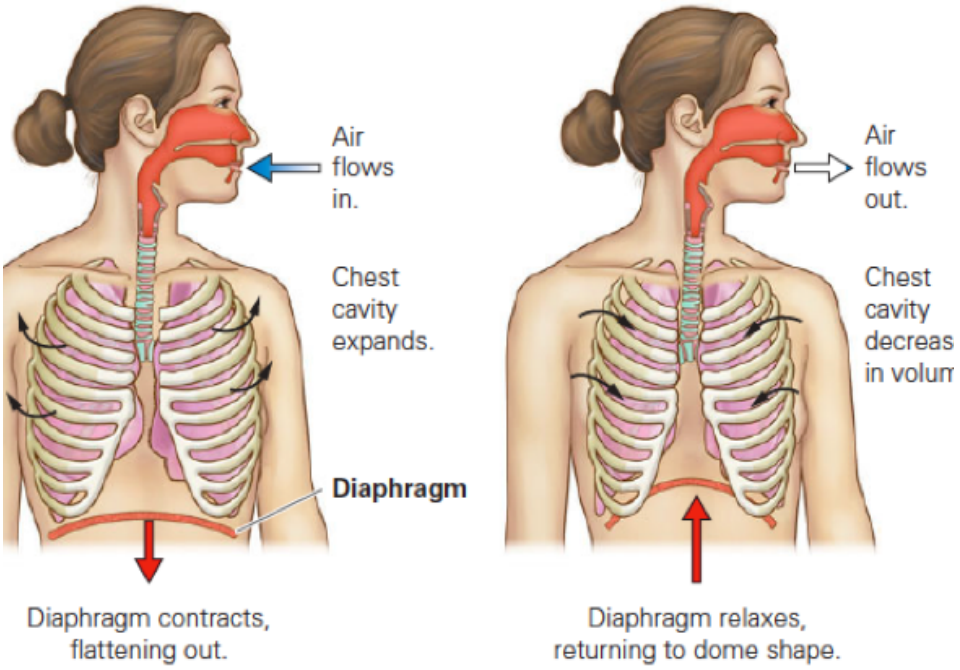
Questions:

Breath support

Goals:

- To enhance understanding of the relationship between the voice and breath
- Listen to the body
- Am I doing too much or too little?

When the breath is not free, the voice depends on compensating strength in the throat and mouth muscles. In other words, the articulatory system is greatly affected by the breath.



When you inhale:

- How do you feel in your abdomen, ribcage, and back?
- How do you feel in your throat, jaw, and mouth?

Inhalation vs exhalation

- Feel the action of the respiratory muscles: the rib muscles and belly muscles
    - Sitting on the edge of your chair with the elbows on the legs:
    - Repeat the cycle: blow out – breathe in – hissing

- Breathing in and out through a drinking straw
- Practice with an exercise band around the ribcage: take in air over 4 counts and exhale over 4 counts. Slowly increase the number. You can also do this exercise with a drinking straw.

To feel the actions of the respiratory muscles

- Check the following sensations when inhaling:
  - The lower ribcage expands front to back, side to side, and slightly upward in northwest and northeast directions.
  - The middle of the back widens.
  - The diaphragm descends automatically.
  - Allow the bottom of the spine to drop and the top of the back to rise gently, stretching the whole spine downwards and upwards simultaneously.

- Check the following sensation when exhaling:
  - The body resistance – the rib cage resists shrinking to retain air but gradually shrinks.
  - The belly button is gradually pulled toward the spine when much air escapes.
  - At the end of exhalation, the body will immediately replenish the lungs.
  - The more air escapes from the lungs, the more dramatic actions are required from inspiratory muscles.

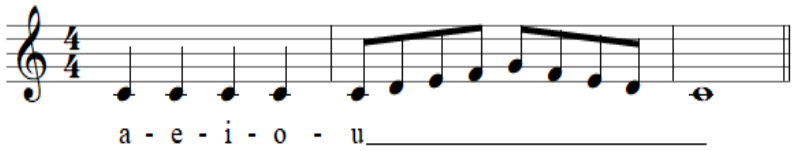
- Common incorrect manners of breathing management
  - Over inhalation (packing too much)
  - Over support during singing

NOTE:

Exercise 1

Gentle panting:
Say a – panting – e – panting – i – panting – o – panting - u
Sing a – panting – e – panting – i – panting – o – panting - u

Exercise 2

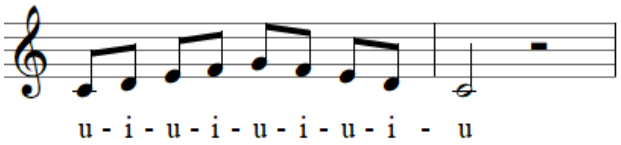


You can also pant between singing a, e, i, o, and u.

Does it work for your voice? Then, repeat this going up a half step until around the key of B major or slightly higher. If unsuccessful – check your body alignment, jaw and tongue, and head posture. Let your breath feel the rhythm.

Exercise 3

Lip trills on a 5-tone scale and then on a favorite vowel or the words that make it easy on your voice such as alleluia, Domine Deus.



Note: place your hand on the chin to make sure your jaw isn't tight nor moves tightly forward when changing notes and/or syllables.

Checklist:

- Support (free breath) or locking?
- Mouth tight or relaxed?
- Head forward or well aligned with the neck?
- Shoulders relaxed?
- Focus on the ribcage only?

NOTE:

Resonance and Articulation

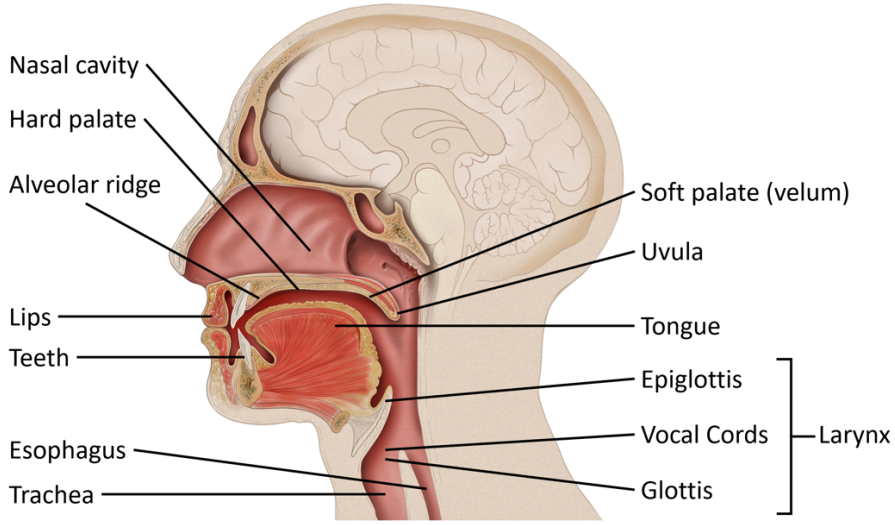
Goals:

- Efficient articulation enhances intonation and vocal quality.
- Optimizing the tongue, jaw, and palate.
- Manage tensions on the jaw and tongue.

The challenges for the professional voice user lie in separating the various functions of the muscles of the jaw, tongue, pharynx, and palate to allow the maximum degree of vocal freedom. (McCoy)

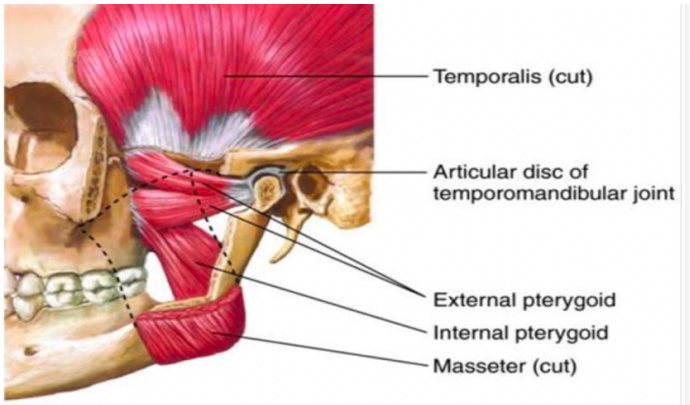
Although articulation important, it is usually only seen as the last place to change resonance or the place where the beautifully produced vocal tone is shaped into vowels and consonants. (Chapman)

Articulatory system:
vocal folds, velum, tongue, teeth, jaw, lips



@ Psychology of Language

Muscles of the Jaw



- Temporalis – large fan-shaped muscle that covers most of the side of the head above the ear (powerful).
    - Jaw: don't think of upper (Maxilla) & lower jaw. It is the mandible joint.
    - Challenge:
        - Difficult to control the jaw muscles due to Muscles raising the jaw (close the jaw) far stronger than muscles that open the jaw – imbalanced
        - Cause: excess tension and inhibition of free tone production

Resonance II

- How to maintain a consistent tone
- Awareness of different types of vocal production
- What type of voice do I have?

    - Helpful exercise:
        - Massage TMJ until your jaw falls like a drooling baby– if it hurts, don't do it.
        - Muppet exercise:
            - Open jaw before popping TMJ
            - Practice rocking the maxilla, feeling movement of A-O joint
            - If difficult, there's gotta be sub tension in the tongue.

Maxilla:

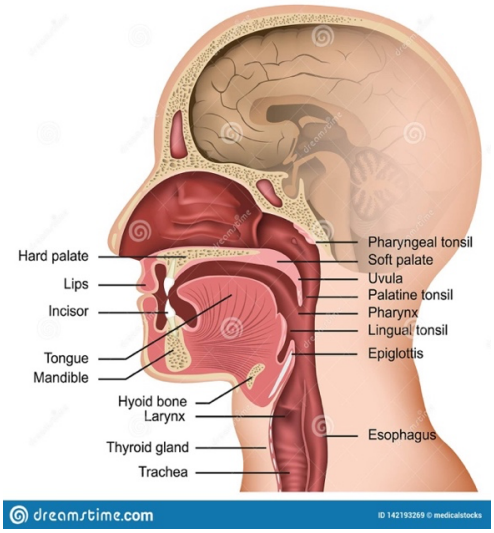
- Garcia cure for stiff jaw
  - Hold a piece of wood (cork) between the teeth while singing on /a/.

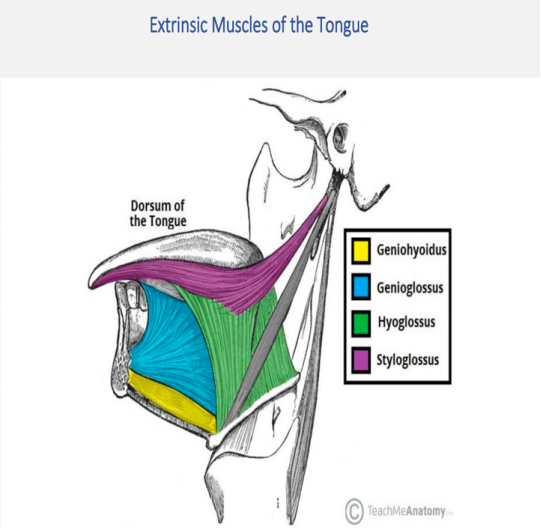
- Effect of jaw movement
  - What is open mouth?– released opening is different for everyone. Many are over engaging in muscles not required for opening

  - Some solutions:
    Slow jaw opening
    Jaw jiggle for jaw release

- Note:
  - Jaw must work independently of the tongue and palate
  - Jaw can compensate for tongue movements –
  - Exercise on dental consonants like la la la la la --- without moving jaw

The tongue





- Very strong, thick and large muscle running down the throat
- Has multiple attachment (complicated)

<u>Common problems:</u>
Tongue retraction or tongue root constriction can impinge on vocal fold vibration and more importantly vocal efficiency.

"NOTE: Monitor the tongue root to be certain that it does not depress the larynx to enhance lower overtones, as this does not allow for fuller resonance.

<u>Various exercises:</u>

- Tongue stretch:
  - Stretch the tongue right, left and center for 20 seconds.
  - Pencil under the tongue and hold it in place while the tongue tip presses the back of your lower front teeth: speak and sing this way – i, e, a, o, u

- To correct depression of the tongue under the chin:
  - Thumb under the chin at the front of the jaw.
  - Goal: Tongue high and clarity

- Stretch the tongue and count and talk:
  - Protrude out as far as possible
  - Count 1-10 allowing the upper teeth to touch the middle of the tongue
  - Say (i e a o u) clearly the same way
  - Tip of the tongue at upper teeth (i e a) and move tip to alveolar ridge (o u)
  - Do with tongue stretches and then without

- Questions:
  - Can you breathe without your tongue pushing down?
  - Can you speak vowels without your tongue pushing down?
  - Can you sing without your tongue pushing down?

- Remapping the tongue through “ng” exercise
  - Goal: allow the tongue to be fronted and relaxed and the larynx more independent from the tongue

The velum (palate)

- To close off the nasal passage for speech, swallowing, blowing, and suckling

- Palate exercises: increase resonance and harmonic overtones.
  - Inhale K’s
  - Snore – before a high note (sol (snore) do on a)
  - Snort – shorter, quicker than snore
  - Sing on m, ng
  - Alternating nasals and vowels

The lips

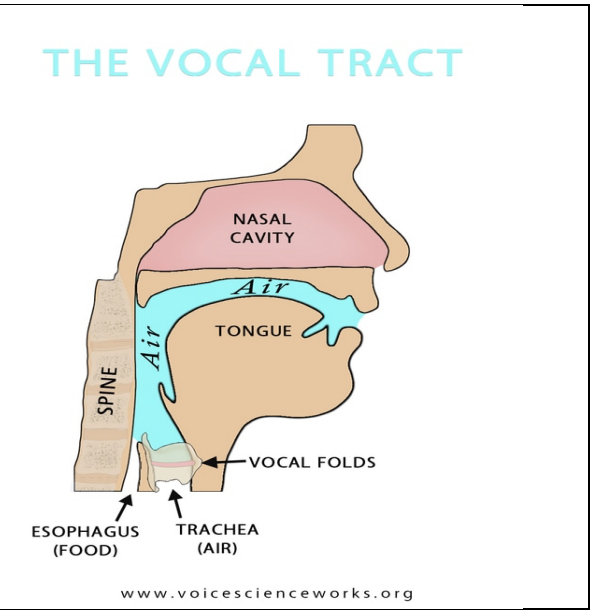
- To correct tightly formed lips:
  - Massage around the lips
  - Do not tense the lips and the corner of the mouth
  - Hold upper and lower lips, say vowels
  - Audio and video recording practice sessions to check if your lips are tight

NOTE:

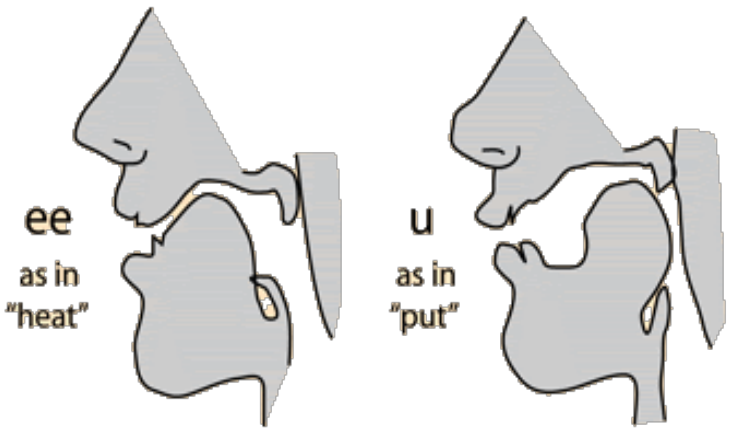
Resonance III: Tuning voice

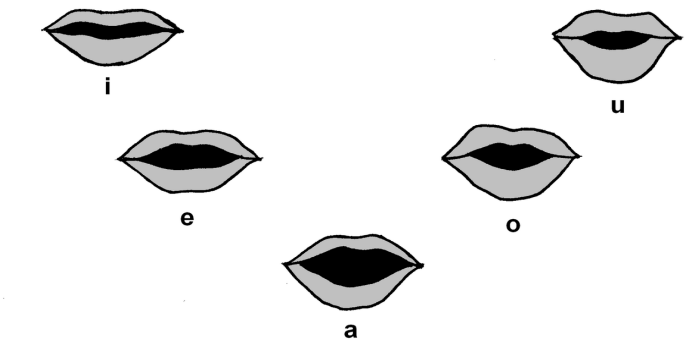
- Various causes for heavy and under-pitched sound
- Explore solutions to improve intonations and vocal flexibility

Boosting resonance: The Resonator of the Voice

Brief visit to the vocal process: - A power source: the breathing mechanism: ribs, diaphragm, lungs - An oscillator, something that moves: the vocal folds - A resonator: The Vocal Tract!	

→ Good news: we can change the shape of the vocal tract





How to enhance vocal resonance

- Resonance = sensation of brilliance
- Kinesthetic awareness: free, clear, and balanced sound
- Do not allow articulatory sensation when changing pitch
- Do not drop the ceiling of the mouth
- Avoid being droopy
- Solo vocal singing vs. choral singing
- For sluggish or heavy voice:
  Let the body and breath feel the rhythm: Walking, body movement
  1231231 / 1234 1234 1
- For singing flat (caused by tight mouth, vocal weight, physical tension, locked breath)
  - Snoring
  - Singing on ‘ng’ and then on a vowel
- Consistent breath support maintains the vocal vibrancy:
- Dum dum lollipops (dom of the mouth and sing i e a o u) – resonance goes over the lollipop
- Hand between upper and lower teeth:

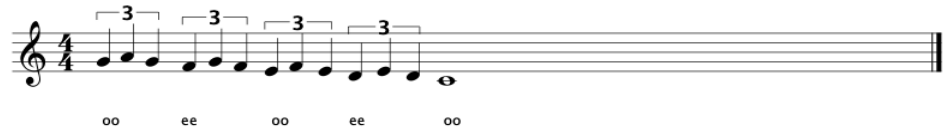
NOTE:

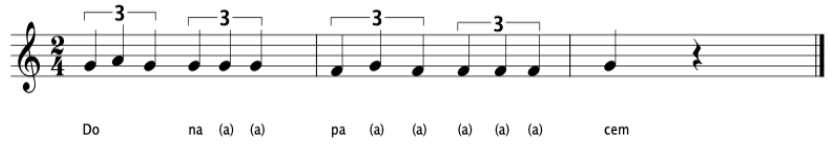
Singing chant (medicine for voice)

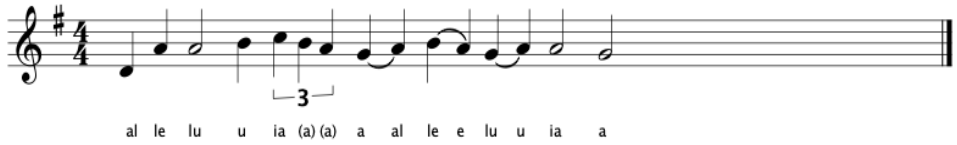
- Types of vocal skills to sing chant stylistically appropriate

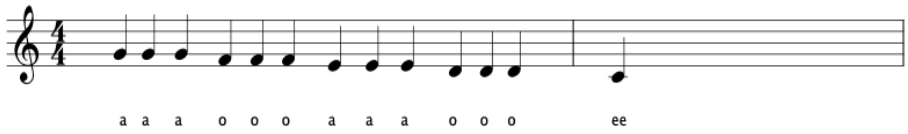
  Tone quality – clear, pure and flexible
  Text oriented singing –
  Dynamics in relation to the purpose of chant
  Voice connected to the spirit
  Over-singing or under-singing
  Understanding the function of a note(s)
  Homework – Detecting hidden subjects
    Dynamic contour –
    Appropriate tempo
    vowel colors

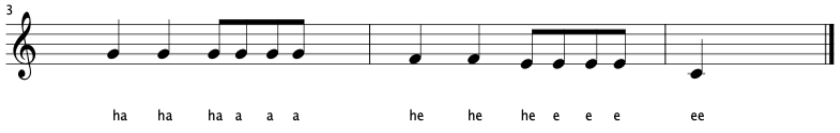
- Helpful exercises for singing chants











Body movement to release breath

- What to do with phrasing: tempi, place to breathe, dynamic choices and expression
- Let your body and breath know the musical timing

Mental techniques

- Singing is a physical and mental sport
- Warm-ups to tune my mind
- To enjoy and appreciate the gift of singing
- Daily commitment

Mental posture

Trust mode

- Your thought:

Obedience mode

- Your thought:

Ensemble Mode

- Your thought:

Story Telling Mode

- Your thought:

Discussions:

- To improve intonation and musicality
- To overcome fear
- To enjoy and appreciate the gift of singing
- To love your voice
- Farewell to frustration and Mr. familiar
- Healthy life as church musician

Exercise: emotional buttons:

- Various text reading
- Improvisation

Training Cantors

- Vocal tone & diction
- Do's and don't do's
- Etiquettes and spiritual posture for cantors
- How to prepare psalms and leading hymns

- a cantor leads the congregation in song and sung prayers
- a cantor sings solo verses or passages to which the choir or congregation responds.

    - Faith
    - Liturgical knowledge
    - Professional skills
    - Emotional intelligence (empathy)
    - Preparation for singing psalms and leading hymns
    - Spiritual posture for cantors and etiquettes

<u>Vocal and musical preparation</u>

- Clear vocal tone
- Good pitch and rhythm
- The words
    - Read the words with good diction
    - Meditate on what the words mean
    - Choice of tempo – too fast? Too slow?
    - Consider the tempo, phrasing, and places to breathe that allow the most efficient delivery of the words
    - Do you want to showcase your vocal ability or the words?
    - Types of vocal tone
    - Clear to follow
    - Solo vs leading the congregation: when to step away from the microphone
    - Spiritual posture
      Voice is a vehicle to deliver words and their meaning
      Sacred beauty, reverence, prayerfulness, and spiritual energy

NOTE:

Vocal Hygiene

- Signs of vocal problems and various diagnosis
- When seeking professional guidance
- Common incorrect vocal habits causing vocal problems and corrective techniques

For Longevity of Voice

Professional voice users = professional voice athlete

- Singing, teaching, counseling, public speaking, telecommunication, and more
- Maintain the health, reliability, and consistency of the voice

Problems:

- Laryngitis, vocal fold polyps, nodules, or cysts

Symptoms:

- Hoarseness, vocal difficulties, clearing throats and etc.

Causes:

- Abuse or misuse of the everyday speaking/singing voice
- Chronic throat clearing, yelling or shouting above loud noises,
- Engaging in prolonged or emotionally charged conversations without paying attention to breath support, resonance, or proper body alignment.
- Acid reflux
- Other health problems

What to do:

- Seek expert medical care with a laryngologist (an ear, nose, and throat doctor who specializes in voice care) and speech- language pathologists should be sought promptly

- Vocal warm-ups and cool-downs
  Voice should be warmed up at the start of day and cooled down at bedtime.

- Voice SPA:

    - Maintain hydration.
        - Drink water: drink between 0.5 to one ounce of water for every pound they weigh
        - Reduce consumption of caffeine, soda, and alcohol
        - Consume warm, non-caffeinated liquids during voice use.
        - Use non-menthol or non-eucalyptus lozenges especially if liquid intake is difficult.
        - Limit alcohol intake.
        - Dr. Gould's gargle recipe:
          ½ tsp sea salt (or kosher salt)
          ½ tsp baking soda
          ½ tsp corn syrup, honey, or maple syrup
          1 cup warm water

Gargle silently, do not rinse for 5 minutes

- A nebuliser is a device that turns a saline solution (a mixture of water and salt) into a mist, which can then be breathed in through a facemask or mouthpiece. It helps clear congestions from airways and lungs reduce mucus.

- Optimize the environment where your voice is used.

  - Increase or decrease use of absorbent materials to modify acoustics of environment.
  - Control or reduce levels of ambient noise in and around area.
  - Optimize layout of area to support voice use (e.g., eliminate barriers).
  - Maintain adequate ventilation and humidity in area.

- Use of proper voice technique: Range, Volume, duration

  - Maintain good speaking and good singing posture.
    - Do not slouch or bend over when speaking or singing.
    - Crouch, sit or stand erect when engaged in voice use.

  - Maintain good breath support when speaking.

  - Warm up voice before use
    - Glide, middle range warm-up (5 tone scales)
    - Finding speaking pitch and volume
    - Lip trills: Keeping your mouth closed, send air between your lips, allowing them to vibrate while making sound on any note. (Happy birthday song) – Balanced phonation
    - Resonant hums: Resonant humming differs from a regular hum in that it resonates in the face, rather than the throat. (1-2 minutes).
    - Cup bubbles (straw phonation): This exercise involves blowing bubbles through a straw into a water cup filled with water. Gather your supplies and look up “straw phonation vocal exercise” online for an instructional video.

- Optimize voice production strategies
  - Use easy onset of voicing. (a, e, i, o, u)
  - Do not talk or sing above high ambient noise levels for extended periods of time
  - Avoid shouting and screaming by using nonverbal cues
  - Take vocal naps after extended voice use
  - Monitor the duration of daily vocal use: take a vocal nap
  - Use amplification where and when necessary
  - Avoid excessive coughing or throat clearing

- Attention to your diet
  - Are you sensitive to spicy, acidic and dairy foods? Avoid them.
  - Reduce or eliminate caffeine intake, avoid mint.

    - If diagnosed with laryngopharyngeal reflux disease (LPRD), follow treatment regimen as directed by your physician.
    - Maintain physical fitness.
    - Obtain adequate rest each night.

- Consult a physician if your voice problem does not resolve itself.
    - Hoarseness
    - Sudden loss and gain of phonation
    - Delayed onset
    - Vocal fatigue
    - Breathy tone
    - Shortness of breath or noisy breath

- "A large number of people who have voice problems don't try to look for treatment unless it's really affecting their job."

- When should I see a doctor?
    - http://www.earandvoicedoctor.com/article_12_2009.html

References:

Sataloff, Robert T., et al. "How Do I Maintain Longevity of My Voice?,"*Journal of Voice*, vol. 64, No. 4, 2008, pp. 462–472

Achey, Meredith A., et al. "Vocal Hygiene Habits and Vocal Handicap Among Conservatory Students of Classical Singing." *Journal of Voice*, vol. 30, no. 2, 2016, pp. 192–197., doi:10.1016/j.jvoice.2015.02.003.

Pomaville, Fran, et al. "The Effectiveness of Vocal Hygiene Education for Decreasing At-Risk Vocal Behaviors in Vocal Performers." *Journal of Voice*, vol. 34, no. 5, 2020, pp. 709–719., doi:10.1016/j.jvoice.2019.03.004.

"Taking Care of Your Voice." *National Institute of Deafness and Other Communication Disorders*, U.S. Department of Health and Human Services, 14 Dec. 2020, www.nidcd.nih.gov/health/taking-care-your-voice.

"UNC Voice." *Med.UNC*, www.med.unc.edu/ent/uncvoicecenter/files/2017/11/vocal-hygiene.pdf.

Solo vocal singing vs. choral singing

- Straight tone or not? What is straight tone?
- types of vocal phonation
- training ears for singing

Beautiful Tone
Healthy, clear, vibrant, flexible, free sound, always focused on pitch

Characteristics of beautiful tone can vary depending on:
Styles of music
Musical Demands
Performance setting
Instrumentation

Contributing to good choral sound requires great discipline. Why?

Types of vocal sound

Definition of subglottic pressure:
"the pressure that builds up beneath("Sub-") the vocal folds. The amount of subglottal pressure generated is determined by the airflow through the leakage of air between the vocal folds and the resistance to that flow during speech or singing."

Breathy Phonation
1. Low subglottic pressure to airflow ratio: air escapes more than usual creating airy sound.
2. A lack of the natural biomechanical energy to produce natural vibrato.

Pressed Phonation
1. High Subglottic Pressure to airflow ratio: the amount of air coming through the folds is minimal, and there is a lot of pressure beneath the vocal folds.
2. Tight sound, unstable vibrato, such as wobble or tremolo

Flow Phonation
1. Balanced Subglottic Pressure to airflow ratio: just enough pressure to fully engage the folds.
2. Natural vibrato, and pedagogically speaking is the healthiest style of singing.

Musical Understanding of Vibrato

- A good vibrato is the pulsation of pitch, usually accompanied by synchronous pulsations of loudness and timbre, of such extent and rate as to give a pleasing flexibility, tenderness, and richness to the tone. (Seashore)
- Most largely perceived in a timbre and quality manner, NOT as a pitch modulation.
- Contribution to a rich, deep, and full vocal sound, and unless the vibrato is excessive, it will go unnoticed to the untrained ear.

Vibrato and intonation:

- When sung correctly, vibrato is both functional and musical in its aid to a singer's performance.
- It improves intonation.
- When trying (consciously or unconsciously) to suppress vibrato, the muscles controlling pitch will experience much more irregular tremors which will thus impact intonation negatively.

Troubleshooting Vibrato Related Faults

Below are four different vibrato related faults, their symptoms, causes, and solutions.

1. ***Wobble:***
    a. **Symptoms**: the wobble is characterized as an excessively slow and wide vibrato.
    a. **Causes:** over-adduction of the vocal folds and tongue tension, or pressed phonation. Common in aging voices
    b. **Solutions:** crescendo work, work towards free flow phonation, and a reduction of tongue tension (using exercises discussed earlier in the semester)

2. ***Tremolo:***
    a. **Symptoms:** characterized as a vibrato that is too fast and typically has a narrow width.
    b. **Causes:** poor resonance and micromanaging of the larynx, as well as pressed phonation and a high larynx.
    c. **Solutions:** releasing tension, and moving towards flow phonation. Reduce subglottic pressure by using sirens and sighs.

What is "Straight Tone"?

- A vocal color that is just as prevalent as vibrato
- Equally important in the toolbox of the modern day singer
- Impossible for any singer to sing a pure straight tone void of (some level of) vibrato. The modern straight tone is simply a minimized vibrato rate and width, such that the tone is perceived to the listener as a "straight tone." (Davids)

False concept of straight tone

1. It is not healthy to sing straight tone
2. Children do not have vibrato
    - Boy soprano with vibrato https://www.youtube.com/watch?v=qBzSoXUOfos
3. Singing straight tone makes tuning easier

Unhealthy Method

- Breathy/Glottal onset
- Too much/too little breath pressure (Breathy/Pressed Phonation tactics)
- Excess tension in the vocal tract
- High Laryngeal positioning

Healthy Method

- Increased airflow + decreased vocal fold pressure
- Maintain vocal fold pressure, but with slightly more firm vocal fold closure (Davids)
- Remember that the goal is not to eliminate all vibrato, rather to just minimize it to where the tone is perceived as a vibrato-less tone.

Redefining Straight Tone

Danya Katok re-examines "straight tone" in her dissertation, *The Versatile Singer: A Guide to Straight Tone and Vibrato.*

"Straight tone is round and clear in quality. It has minimal vibrato, yet shimmers with energy and pulsation."

Choral directors and voice teachers:

- Take the time to teach them how to do it in a healthy way
- Use the straight tone style as an occasional shift in color, rather than the baseline sound.
- Use terminology other than "straight tone."
- Emphasizing pitch accuracy is the most crucial aspect.
  'Sing with a pure, clear, focused tone that is right in the center of the pitch.'
- Some common issues led to less efficient sound production in choral singing
  Sight-singing posture, folder shoulder, vocal fatigue: lengthy rehearsal
  Loud straight tone Singing: instead, adding more resonance and focus.
- Singing quietly can enhance the ability of the choral singer to hear the choir as a whole without being distracted by his or her own sound

Helpful words:

- The key to healthfully minimizing vibrato. Low subglottic pressure must be combined with low airflow when trying to achieve straight tone. (Sally Sanford)
- One controls how one's breath is flowing, but there still has to be a sense of forward motion, rather than the feeling of "holding" the voice back.
- This common mistake, "holding back" the voice, is what causes the tension and fatigue commonly associated with straight tone singing.
- Wessinger says, "you have a nice, free, breathy feeling that's not breathy."
- Finding the "Hoot"
-

Some listening samples:

Boy soprano with vibrato- https://www.youtube.com/watch?v=qBzSoXUOfos

Allegri Miserere mei King's college - https://www.youtube.com/watch?v=IX1zicNRLmY

Regensburger Domspatzen boys choir - https://www.youtube.com/watch?v=wwGBn6nIA9E

Vibrato for dramatic operatic repertoire, more intensity - https://www.youtube.com/watch?v=RxZSP1Dc78Q

Monserrat Cabello – o mio babbino caro - https://www.youtube.com/watch?v=oVQxIhgunhw

Aging voice and care

Why study the aging voice?

- Older adults in choral settings
- Never too old to learn!
- It will happen to you!
- The voice begins aging between the ages of 25-30
- Voice maintains stability until around 60
- This is all based on a "typical voice" not a professional vocalist using proper vocal hygiene

Signs of aging voice and causes

- Changes due to aging
    - Muscle shrinkage
    - Weakening of the overall apparatus
    - Shrinking of thorax
    - Respiratory function decreases
    - Kyphosis
    - Osteoporosis/osteoarthritis
    - Decreases in neuromuscular function
    - Reduced sensory function
    - To the larynx:
        - Decreased elasticity of tissues
        - Calcification & ossification (stiffening) of connective tissues
        - Deterioration of the cricoarytenoid
        - Dryness of mucous membrane
        - Thinning of mucous membrane

- Changes dependent on hormones
    - People with estrogen: estrogen decrease post menopause causes a density in the vocal cords, lower range
    - People with testosterone: decreased levels of testosterone can cause range to rise

- Changes in Vocal Quality
    - Dysphonia (hoarseness)
    - Roughness
    - Breathiness
    - Strain
    - Instability
    - Raspiness

Vocal Exercises to maintain vocal ability

- Humming with a large straw
- Sirens
- Exhaling on s
- Reading out loud
- Aerobic exercise
- Warming up AND cooling down
- Other Considerations
    - Emotional support
    - Creative support
    - Encouragement
    - Appropriate repertoire
    - Creating an appropriate space
    - Vocal fatigue

References

"Aging Voice: Condition: UT Southwestern Medical Center." *Condition | UT Southwestern Medical Center*, utswmed.org/conditions-treatments/aging-voice/.

"Aging Voices." *VOCAL TECHNIQUE*, www.vocaltechnique.info/aging-voices.html.

"Elder Care Interprofessional Provider Sheets." *UAHS Center on Aging*, 1 Apr. 2016, www.uofazcenteronaging.com/care-sheet/providers/presbyphonia-aging-voice.

"Hoarse Voice (Dysphonia)." *Hoarse Voice (Dysphonia): Causes, Diagnosis, Treatment and Prevention*, www.nationwidechildrens.org/conditions/hoarse-voice-dysphonia.

Lorraine A. Ramig and Robert L. Ringel, et al. "Effects of Physiological Aging on Selected Acoustic Characteristics of Voice." *ASHA Wire*, 26 Feb. 2020, pubs.asha.org/doi/10.1044/jshr.2601.22?utm_source=TrendMD.

Rojas, Sandra, et al. "How Does Our Voice Change as We Age? A Systematic Review and Meta-Analysis of Acoustic and Perceptual Voice Data From Healthy Adults Over 50 Years of Age." *ASHA Wire*, 20 Dec. 2019, pubs.asha.org/doi/abs/10.1044/2019_JSLHR-19-00099.

Yinger, Olivia Swedberg. "Adapting Choral Singing Experiences for Older Adults: The Implications of Sensory, Perceptual, and Cognitive Changes - Olivia Swedberg Yinger, 2014." SAGE Journals, journals.sagepub.com/doi/abs/10.1177/0255761413508064.

Vocal registers and classification

Vocal Register:

- What is a register in the human voice?
  - A particular series of tones, produced in the same manner (by the same vibratory pattern), and having the same basic quality

- • Types of registers in the human voice

  - Vocal Fry Register
    - Production
      - Apopping or rattling sound of very low frequency
      - Extremely low in pitch, fundamental frequency 36.4 hertz
      - Easier to perform on ah than other vowels

    - Use in singing
      - More widely used than many people realize
      - Gospel quartet basses, Russian choral basses
      - Excessive use can limit the upward extension of modal voice
    - Therapeutic use
      - Can be used with students who have trouble producing lower notes
      - Women do not usually sing in vocal fry register but are capable of doing so

  - Modal Register
    - Normal register for speaking and singing

    - Production
      - Lowest pitches
        - Vocal cords are thick and wedge-shaped
        - Large portions of opposing surfaces of cords are brought into contact
      - Rising pitch
        - As pitch rises, vocal cords begin to lengthen.

      - A well trained singer can sing 2+ octaves in modal register

  - Falsetto Register
    - Lies above the modal register and overlaps it
    - Breathy and flute-like
    - Few overtones
    - Production
      - More limited in dynamic variation and tone quality than modal
      - The type of vibration that produces falsetto is only loud in the highest pitches and limits available tone colors due to the simplicity of its wave form.

- Whistle Register
  - Highest register for female voice
  - Just above female falsetto
  - Begins above high C and extends to the next C or D
- Singers goal – smooth and even vocal quality throughout the vocal range.

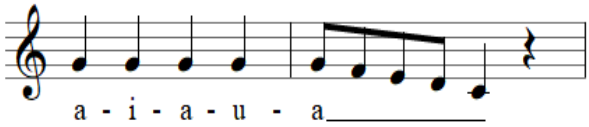
Voice Classification

- The rationale for voice classification
  - Having a good voice classification that truly fits the singer is very important.
  - Don't be in a hurry
  - Assume that a voice is a medium classification until it proves otherwise. The majority of the population possesses medium voices, and assuming this helps avoid harmful voice classification.
- What are the criteria when classifying voice?
  - Range-
  - Tessitura-
    the area of the voice that is getting the most use from the singer. Likely this will NOT be the extreme upper and extreme lower parts of the singer's range
  - Timbre-
    singer's overall vocal quality, or as some call it the "vocal color." .
  - Transition Points-
    These are the areas where the voice "breaks" from one register to another.
- How would you classify voice for choral auditions?
- Dangers of voice misclassification

Vocal register blending and agility

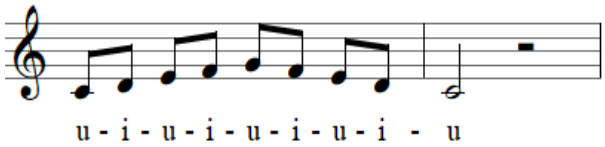
Exercises:

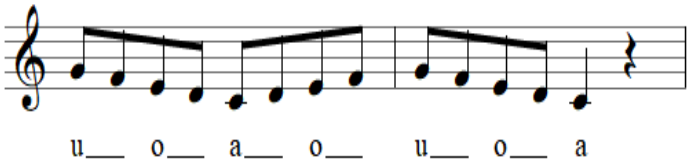
- To blend the middle voice downward to chest voice:



Start on the A above middle C and take the exercise downward a minor 3rd.

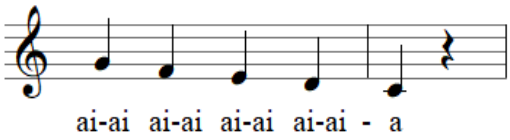
- Middle voice – do not open too much.





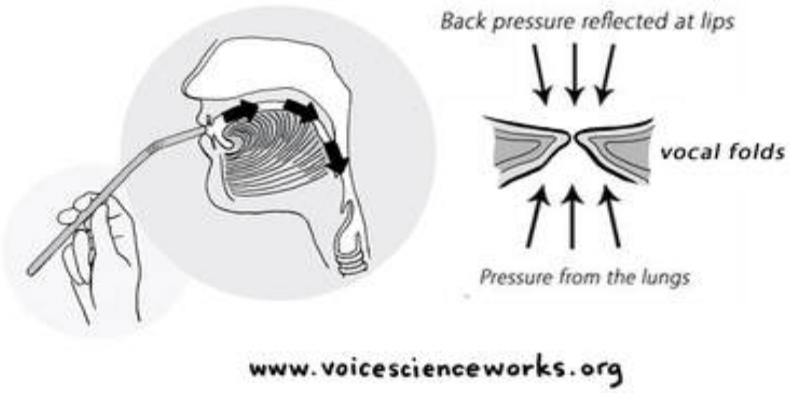
Note: Be sure to unhinge the jaw.

- Chewing-like exercise to correct the tight jaw:



- For balanced vocal onset and clarity
    - Use of nasal consonants like, “m,” “n,” and “ng” to facilitate the training of vibratory resonance.

- Straw phonation – also assists smooth register blending



  - Why:

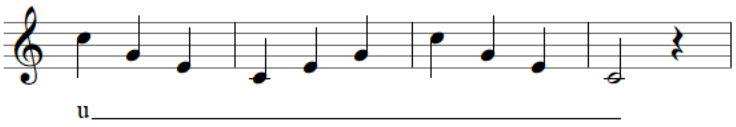
    = More pressure in the vocal tract
    = less input needed from vocal folds
    = more efficiency
    = less fatigue

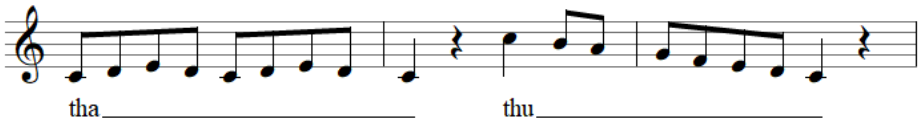
  - Semi-Occluded Vocal Tract Exercises (SOVTE) "involve narrowing the vocal tract, usually near the lips or tongue tip, while voicing.

- Vowel modification: finding functional vowel assists smooth register blending.

Vocal agility exercise

- Tiny "u" – small mouth space with space between upper and lower molars. Be sure to unhinge your jaw.

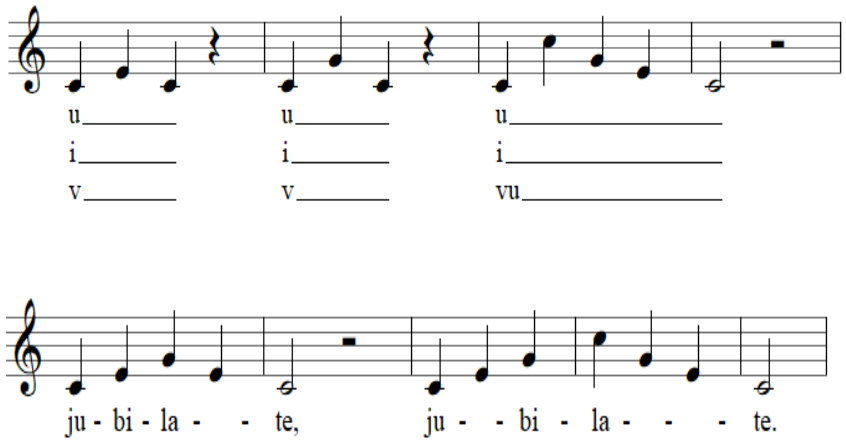




- Checklist:
  - Relaxed throat (open tube)
  - A slightly forward and arched tongue - /ng/
  - Jaw relaxed, slightly down and back
  - Soft palate stretched wide – promotes upper overtones and prevents the larynx from being depressed with the root of the tongue. At the same time the cheek muscle will be reflexively stretched opening the acoustical space beyond the tongue root. It will allow a lower laryngeal position and for the tongue root to remain free of tension.
  - Tongue root wide and free of tension.
  - Avoid over rounding lips – causing narrowing the pharyngeal space)

- What needs to be established in order to open the mouth further for high register
  - Unhinge the jaw
  - Wide tongue root
  - Stretched soft palate

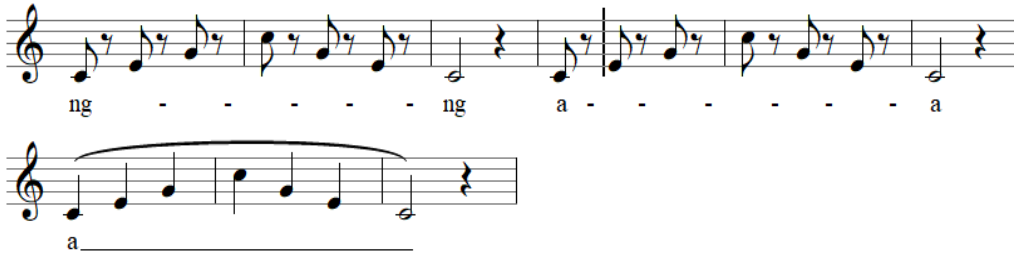
- Vocal stretch



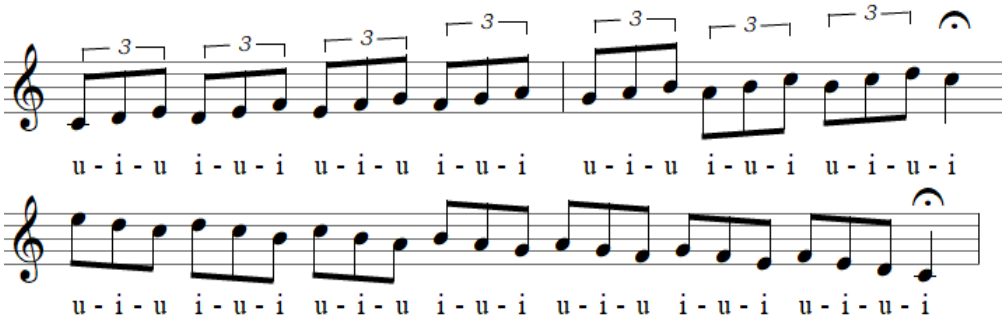
- Messa di voce:

  Keep your voice in a state of being able to easily make loud and soft sounds and run through high and low pitches.

- Arpeggio in staccato and legato



- Coloratura



- Consider practicing exercises in different tempi and dynamics
- Improvisation

Be Creative:

Design the exercises for your daily routine: aim to develop skills to coordinate breathing, phonation, and resonation.

Exercise order:

warm up your body and mind

List your goals and specific exercise patterns to reach them.

1.

2.

3.

4.

5.

Respiration

1.

2

3.

4.

5.

Balanced phonation

1.

2.

3.

4.

5.

Resonation and consistent vibrancy

1.

2.

3.

4.

5.

Coordinating the three above:

1.

2.

3.

Wisdom for practice and rehearsals for singers and choral directors

- Duration, techniques, musicianship, expression
- Practice performance
- Improvisation skills

Creative learning

- Design your own practice plan
- Design your choir rehearsal plan
- Design your teaching lesson plan

Practice skills:

- Duration, techniques, musicianship, expression
- Practice performance
- Improvisation skills

Singers' goodie bag items:

- Resistance band
- Corks (two of different size)
- Straws
- Dum dum lollipops (dom of the mouth and sing i e a o u) – resonance goes over the lollipop
- Flow ball
  https://voicefoundation.org/product/flow-ball/