

Emerald Choral Academy

Semi-Occluded Vocal Tract Exercises

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Disclaimer

- All the information in this presentation is intended to be informational. It is not intended for the purpose of diagnosing or treating medical disorders. The Emerald Choral Academy is not responsible for conditions that require a licensed professional for diagnosis or treatment. If you are experiencing symptoms that might require a diagnosis, seek medical attention.





Introduction “What”


SOVTE (Semi-Occluded Vocal Tract Exercises) includes several “postures” that involves partial closing of the mouth, narrowing of the vocal tract, or somehow increasing the intra-oral air pressure resulting in more efficient phonation.

Examples include: humming, lip trills, using voiced or unvoiced fricatives, straw phonation, bubble phonation, and “manual” occlusion (hand over mouth).



Introduction

“Why”

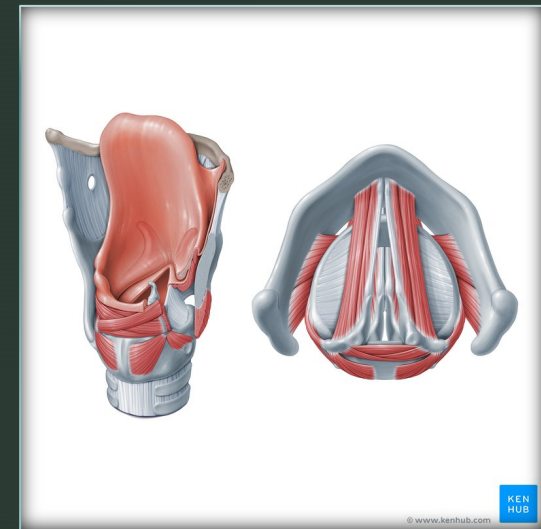
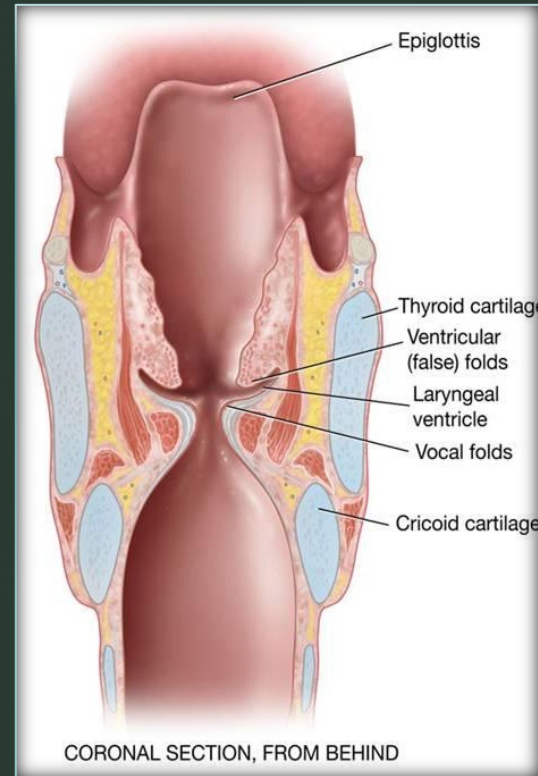
- Breathiness: helps develop more complete vocal fold adduction
 - Encourages legato singing
 - Registration Events: Helps the vocal folds “square up” (balanced CT/AT crossover) during registration/mode changes.
 - “Pressed tone:” Helps reduce excessive subglottal air pressure
 - Helps reduce fatigue, provides relaxation from enervation
 - Warm-up and cool down
 - Helps in teaching “glottal efficiency.”
 - Increased vocal “power” with long-term use.
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The Science of SOVT: *Vocal fold alignment /squaring up*

- The differential in air pressure (subglottal -> oral) is how phonation works!
- When you “occlude” the vocal tract, some pressure (energy) returns to the vocal folds. (Both air pressure *and* acoustic pressure.)
- When the air pressure is *more* equalized, the CT/TA muscles (and other intrinsic systems) can coordinate more efficiently, resulting in better adduction and more dynamic registration changes.

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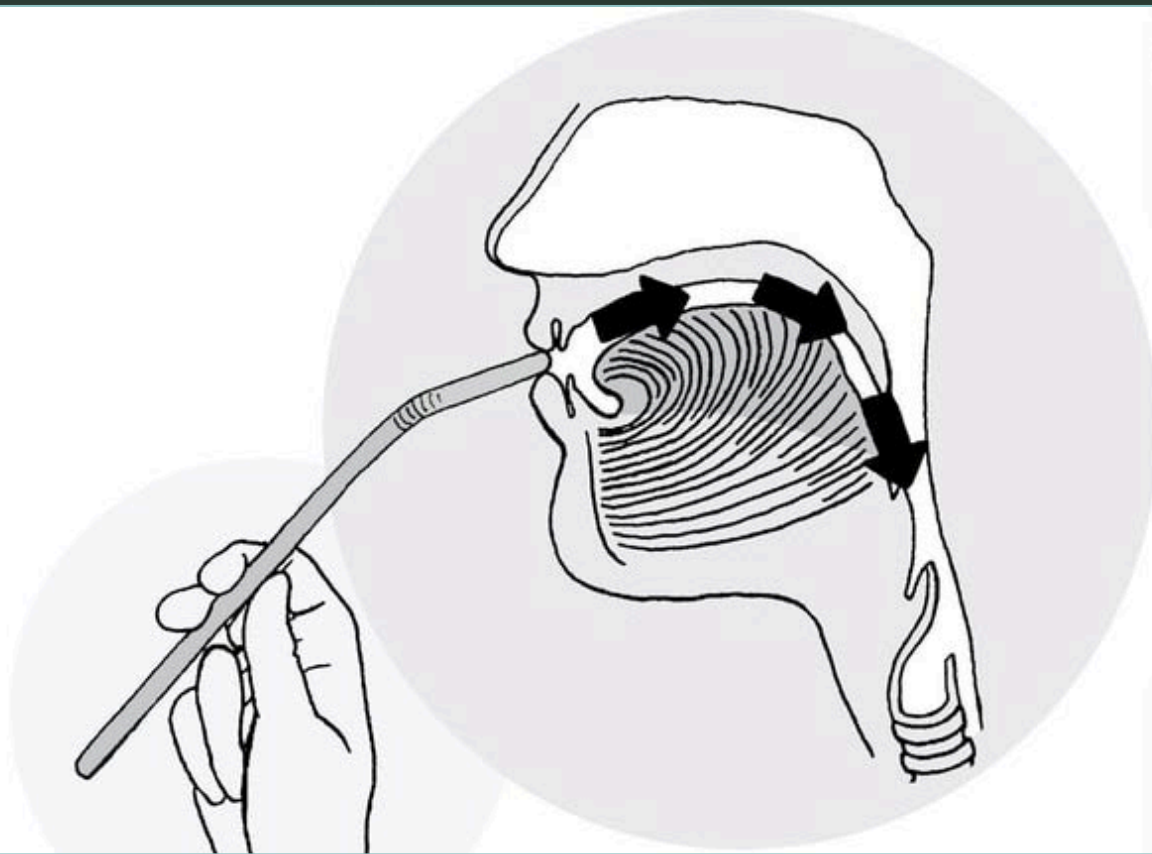
The Science of SOVT: Vocal fold alignment /squaring up



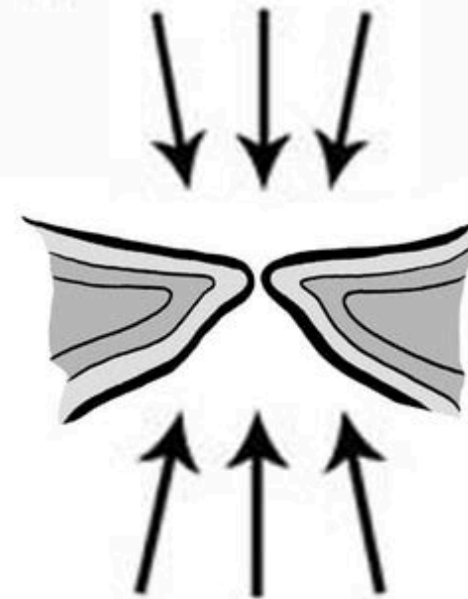
The Science of SOVT: *Vocal Tract Inertance*

- Acoustic “back pressure” = acoustic inertance. (Think about this in terms of acoustic energy not transferring outwards toward the audience). Acoustic science includes this under “acoustic impedance.”
- Balance between subglottal air pressure (below the vocal folds) and supra-glottal air pressure (above the vocal folds).
- Sometimes we refer to “intra-oral air pressure” in SOVT.
- Lengthening the vocal tract (as with a straw) further balances the mechanism and increases inertance making phonation more efficient.
- **Thank you to our friends at Voice Science Works!*

The Science of SOVT: *Vocal Tract Inertance*



Back pressure reflected at lips



vocal folds

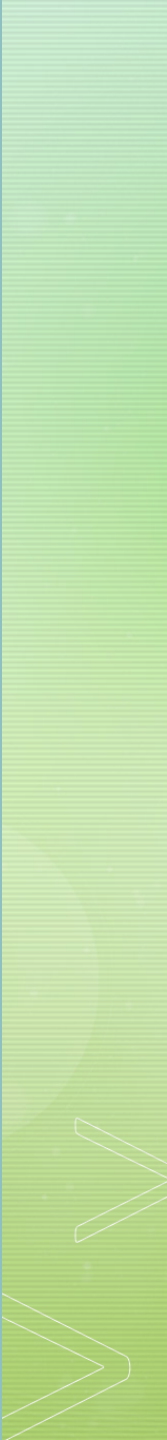
Pressure from the lungs


Examples of SOVTE's (No straw or appliance)

- “Postures”
- Hums using /m/, /n/ or /ŋ/ (hung) (agma)
- Lip trills, tongue trills,
- s/z, ʃ/ʒ, f/v, th/ð (eth),
- Hand over mouth
- Internal vowel!!!



Examples of SOVTE's Straw phonation

- Diameter and length of straw
 - Stretch and unpress (Ingo Titze)
 - Glides and slides, highs and lows
 - Registration events/areas (Chest, Voice, Mix)
 - Hum a tune
 - Problem areas in your music
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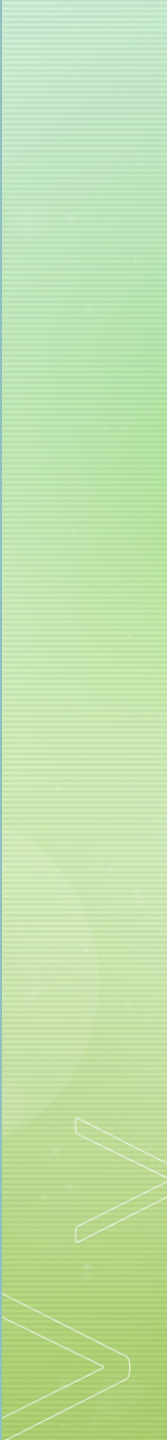


Examples of SOVTE's Bubble phonation

- How much water, what kind of container?
- Start with low-pitched hums
- Adjust water pressure
- Have a vowel “inside”
- Slides, glides, and songs (Mary had a Little Lamb)
- Registration areas
- Rehearse your music!



A Few Precautions

- Vocal Health: don't sing on damaged or swollen vocal folds
 - Are you released from your ENT/SLP?
 - Voice professionals working together!
 - Rebuilding after COVID? Work slowly!
 - Seek help!
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Sources

- Dimon, Theodore. *Anatomy of the Voice: An Illustrated Guide for Singers, Coaches, and Speech Therapists*. North Atlantic Books, 2018
- Ragan, Kari. *A Systematic Approach to Voice: The Art of Studio Application*. Plural Publishing, Inc., 2020
- Titze, I. R. (2021). *Principles of voice production*. National Center for Voice and Speech.
- <https://www.voicescienceworks.org/vocal-health.html>
- **Special thanks to Heidi Moss-Erickson, San Francisco Conservatory of Music**

Now for your
questions...
...and maybe some
guided practice!

