



Phonatory Exercises Handout: Semi-Occluded Vocal Tract Exercises

What are Semi-Occluded Vocal Tract Exercises? A Semi-Occluded Vocal Tract (SOVT) means there is some sort of narrowing somewhere along the vocal tract, which is anywhere from the vocal cords to the lips.

What is the difference between an open vocal tract, a semi-occluded vocal tract, and a fully closed vocal tract? Here are some examples of each:

- **Open vocal tract:** Open your mouth and say “AHHHH”. No obstruction of the airflow.
- **Semi-occluded vocal tract:** Say the OO /u/, V /v/, Z /z/, J /ʃ/, or M /m/ sounds - notice how your lips and/or teeth come together to shape the sound. This also happens with a lip or a tongue trill - the airflow is “semi” closed off to make a sound.
- **Fully closed vocal tract:** Close your mouth and purse your lips together. Your vocal tract is closed (except for your nasal passage for breathing).

How do SOVT Exercises help the vocal cords? SOVT exercises can improve the conditions inside the throat as your vocal cords are vibrating. They do this by neutralizing the pressure that is coming up from the lungs. When you have a semi-occluded vocal tract, some of the airflow is blocked from exiting the mouth, because your lips and/or teeth are closing off the airflow as you say “OO”, “ZZ”, “VV”, etc. This airflow is reflected back towards the vocal cords (see the following pages for drawings) and pushes back against the vocal cords from the top. This pushing from the top will balance out the pressure that is being pushed up from below from the lungs, and this allows your vocal cords to vibrate more efficiently (not too pressed or strained, not too breathy).

What is considered an SOVT exercise? Here are a few examples:

- Saying the following sounds:
 - OO /u/, M /m/, N /n/, NG /ŋ/, V /v/, Z /z/, J /ʃ/, ZH /ʒ/
- Lip trills or tongue trills
- Using a straw or a paper or styrofoam cup with a small hole punched through the bottom

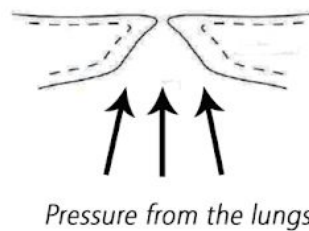
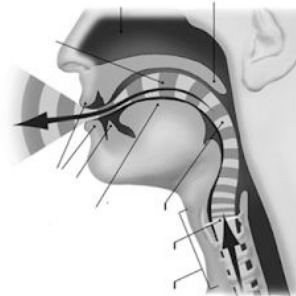
Benefits of Semi Occluded Vocal Tract (SOVT) Exercises

*Semi Occluded: phonating with the mouth partially closed
i.e. straw phonation, humming, lip trills*

SOVT Exercises = Less collision, impact and pressure on the folds while still getting them to stretch in a balanced position

**Like doing stretches in the pool –
less impact and stress on your muscles**

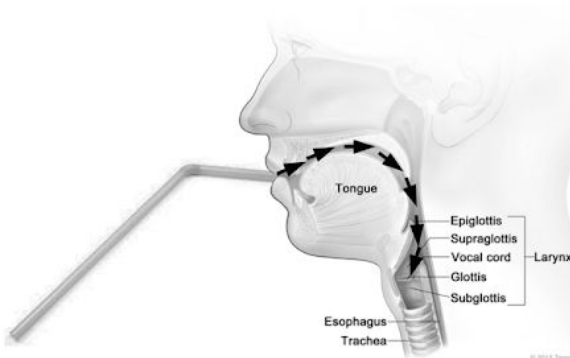
When the mouth is open, air pressure comes up from the lungs, impacts the bottom of the folds and is expelled through the mouth.



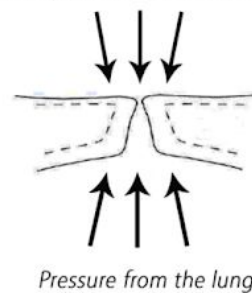
While some pressure always returns, when the mouth is more closed (semi-occluded) more pressure is reflected at the lips and returns to the folds.

This back pressure helps align the folds up in a more balanced, squared up position

****Great for transitions in the voice and finding a mixed register****

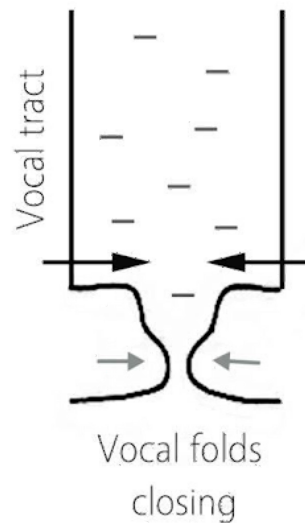
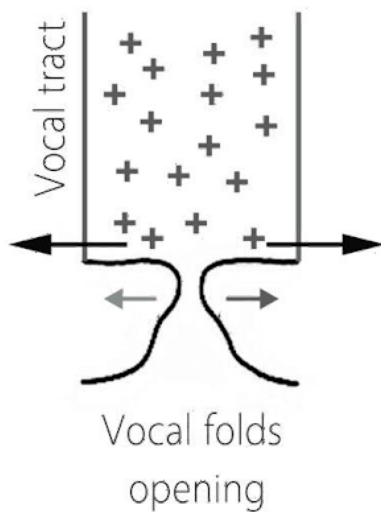


Back pressure reflected at lips




As the folds open, the positive pressure in the vocal tract above pushes them apart even more

As the folds close, the negative pressure in the vocal tract above pulls them together even more



When the positive and negative pressures of the vocal tract line up with the opening and closing of the vocal folds it's like giving someone a push on a swing at the exact right moment- making the vocal folds a self-sustaining oscillator

Creating the right space and pressure in the vocal tract = less impact on the vocal folds

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

For maximum benefit try -

--At least 15 minutes a day – use as a warm up or cool down or reset button

--Go back and forth between SOVT exercises and open mouth singing – try to keep same sensations of free oscillation and forward buzzing in resonator

--During repetitions use SOVT to avoid vocal fatigue

--SOVT is great for doing vocal slides through register breaks and accessing the extremes of the range

--Try straws with different lengths and diameters. The straw is meant to mimic the length and pressures of the vocal tract so find the size that works best for you

--Put two straws together lengthwise or two side by side

--To benefit from the maximum amount of back pressure, make sure no air is escaping around the lips or through the nose

--SOVT exercises are not the time to check out! Use a full respiratory effort! And key into the sensations of resonance and vocal production

