

Nuts & Bolts of Semi-Occluded Vocal Tract Exercises in Voice Therapy: The Why, When and How- Marci D. Rosenberg, MS CCC

What is a Semi-Occluded Vocal Tract? These exercises have long been used in both the area of speech pathology, vocal pedagogy and vocal coaching. Described by Titze in 2006, an SOVT introduces some sort of narrowing somewhere along the vocal tract. This narrowing can occur at any supraglottic point along the vocal tract.

Why are SOVT's useful for voice therapy? Use of a SOVT exercise improves vocal economy by creating an environment in which the resonances of the vocal tract interact productively with the airstream as it is valved by vocal fold vibration. The result is a neutralized level of adduction (not too pressed, not too breathy). Completions of these types of exercises engage all of the subsystems of voicing (power, source, filter, articulators). One of the benefits of SOVT's is that there is a multitude of ways to do them, and they can be easily modified and adapted to meet the needs of different patients. Additionally, they provide kinesthetic feedback to the patient who can tune in to these forward, resonant sensations. This is useful for carryover for connected speech, which does not inherently allow for semi-occlusions.

How do SOVT's improve vocal economy? When done correctly, SOVT's maximize the interaction between the sound source (vocal fold vibration) and the filter (vocal tract). Very detailed explanations of the science behind how this happens are found in the resources provided in the front of this handout. Very simplified, the column of air above the vocal folds can be entrained to actually improve vibration of the vocal folds. This happens when the semi-occlusion creates increased acoustic pressure near the occlusion. This causes a backpressure of acoustic energy within the vocal tract, which is then re-directed back down to the vibrating vocal folds helping them to generate more aerodynamic power. This is then transmitted back up through the lips as acoustic power. When this is done in a productive manner, the result is sensation of vibration in the front of the face and an efficient, resonant voice production. However, when the sound source (aerodynamic energy) is not efficiently converted into acoustic energy, the result is sensation of vibration in the laryngeal region with a non-resonant quality.

When are SOVT's useful in voice therapy? Because SOVT's facilitate easy phonation, and are executed at low volumes they can be modified and used for almost any type of voice patient:

1. SOVT's are very user friendly for Pts with vocal fold lesions
2. Many variation of SOVT's are gentle enough to be used during post operative re-introduction of voicing (once cleared by otolaryngologist to initiate therapy-wound healing implications)
3. SOVT's are very useful throughout the day as a voice calibrator
4. SOVT's can be used after very active voice use as a cool down to reduce fatigue
5. SOVT's can be helpful for the non-intuitive voice patient as a means of facilitating resonant voicing

