

TONGUE MANAGEMENT

(excerpt from pp. 1-3)

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The tongue consists of a sizeable number of muscles, the contraction of which have the ability to negatively or positively affect articulation, resonance, and efficiency of phonation; thus, optimal use of this organ is central to developing and maintaining a healthy, successful vocal technique. The interrelatedness of the intrinsic and extrinsic tongue, velum, and laryngeal muscles enable the tongue to potentially impact the function of the jaw, velum (soft palate,) pharynx, and larynx. As a result, a pedagogical approach that focuses directly on the tongue can have a wide-ranging effect on technical outcome.

Problems that can be addressed through effective tongue management include, but are not limited to: (1) excessively high or low laryngeal position (2) ambiguous vowel production (3) indistinct consonant articulation (4) lack of natural vibrato rate, e.g. straight tone, flutter/bleat, wobble (5) absence of legato (6) excessive nasality (7) knödel or “neck-tie” timbre (8) noise or strain in the sound (8) jaw or neck tension and (9) musculature tension in various locations throughout the vocal tract. This paper focuses on various directives and exercises for the tongue through which numerous vocal faults can be alleviated.

Understanding the tongue’s neutral, relaxed position is the first step in acquiring efficient use of the tongue. Muscle movement is initiated neurologically, and the tongue must be free of extraneous tension to be able to respond comfortably and accurately to neural signals. For this position, allow the jaw to hang loosely without opening the mouth more than is necessary to speak the vowel [ε]. The tongue should lie weightlessly in the floor of the mouth. Depending on the length of the tongue, the tip should rest comfortably at or on top of the bottom teeth, and the middle portion should be positioned for the neutral vowel [ə]. There are a surprising number of singers who have difficulty assuming an at-rest position that does not include at least some recruitment of extraneous musculature. Students who have a natural tendency to retract, depress, or medially contract the tongue can be helped by perceiving it as more full, or thick in the mouth.

The following stretches and relaxation exercises are recommended for those who have difficulty releasing extraneous tension.

Stretches

1. Lodge the tip of the tongue behind the bottom teeth while protruding the rest of the tongue as far out of the mouth as possible. At the same time, stretch the velum, thinking of moving the tongue and velum in opposite directions. Add phonation—probably a short call sound in mid-range on [æ]—and be sure the tongue does not retract.
2. Stretch the entire tongue out of the mouth downward toward the chin, then up toward the nose, and side-to-side toward the cheeks.
3. Polish all teeth with the tip of the tongue.
4. Lodge the tip of the tongue behind the bottom teeth, roll the rest of the tongue out of the mouth, and bite down to hold tongue in place. Vocalize, maintaining focus of the sound in the nose by lifting the back of the tongue toward the velum.

Relaxation

1. Vocalize with the tongue hanging thickly between lips—jaw loose, upper teeth resting on top of tongue.
2. Press the thumb under the fleshy part of the chin to identify and release tongue depression.
3. Vocalize or sing a melody on tongue “razz” for 2-3 consecutive minutes, interrupting the sound only for breaths as needed. Normal singing immediately following the exercise should exhibit much less tension. As soon as tension returns, resume the exercise and repeat the process.
4. While singing either vocalises or literature, intermittently insert a rapid babble movement of the tongue (flapping tip of tongue in and out across the upper lip.) The babble should be inserted contiguously within the normal singing as often as needed to prevent recurrence of tension.
5. Cradle the back of the neck in cupped hands while pressing the fingers into the muscles on either side of the spine. Allow the head to release slightly backward while singing a sustained pitch. This action releases tension in the pharynx and base of the tongue.
6. Rotate the head very slowly and evenly up and down while singing. The head should move no more two or three inches above and below a level position. Be sure to maintain proper alignment of the head between the shoulders. Uneven rotation indicates tension in tongue, neck, or both. Conversely, even rotation creates relaxation.

After a relaxed, neutral position is successfully achieved, the student should practice doing onsets with the same vowel [ə]. The appearance of the tongue should *not* change when phonation is added. A change in the shape/position of the tongue indicates that inappropriate musculature is assisting the adduction of the vocal folds, creating laryngeal tension. This problem can be addressed by helping the student to isolate the *source* of the sound—the glottis. Instruct the student to repeatedly speak the vowel with lightly detached glottal strokes. Tapping a finger on the thyroid cartilage can assist this process. After the student is able to produce these sounds without tongue movement, proceed to a sustained sound. The student should continue to focus on the glottis while supplying ample airflow to avoid recruitment of tongue muscles. Another method of isolating phonation at the source is to employ a “creaky voice” or vocal fry prior to phonation on a vowel. The singer should form the vowel first, and then begin the sound with just enough airflow to produce a creaky noise. This method not only teaches the student to produce an onset that is “unassisted,” but is also especially beneficial for the production of a clear, ringing sound that is free of tension.

Vowel Formation

Once a relaxed onset is attained, the student can learn to isolate the appropriate movement of the tongue for relaxed vowel formation. It is important to understand that *only* the dorsum of the tongue is responsible for enunciating the vowels, and that the tip and base (or root) must remain relaxed. Accurate formation of the arch of the tongue is essential for achieving vowel clarity. Using pictures of vowel shapes in the studio can be enlightening for students and can help them to internalize where the tongue is located in relation to the roof of the mouth for each vowel. When the student is intentional about forming the specific shape for each vowel while maintaining the relaxed position described above, tension in other areas of the tongue is automatically averted.

Exercises to Promote Relaxed Jaw

Voice Foundation, 2010

Hum with
Jaw Release

Standing behind Pt
use middle fingers to
Maintain buoyant jaw
Opening during RV or sung gesture



jaw engagement
with voicing

With the singing population, jaw tension can be a persistent issue for both speech and singing. Releasing the jaw frequently results in a much more resonant sound. Jaw stretching can precede this exercise. The middle fingers of the clinician are placed externally on cheeks of patient in between upper and lower back teeth. Clinician should insure that jaw is released before allowing patient to initiate sound. Jaw should be somewhat pliable during this task. Chewing can also be added once consistent jaw release is felt. Clinical tactile feedback should be faded as soon as singer has gained the concept of producing sound with a released jaw. If needed, reintroduce tactile feedback as you increase voice production complexity, then fade again allowing singer to establish internal monitoring for jaw release.

Glass Q-Tips

Use to long Q-tips
Placed b/t
Back molars

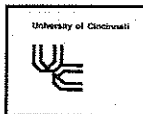


Jaw clenching w/
speech or singing

This exercise builds on the previous. The patient is told to imagine the Q-tips are blown glass and that they are not to clench or tighten their jaw. For larger space, a tongue blade held in the non-flat position, or index finger can be used. A hierarchical approach can be used beginning with the above exercise building to connected and then spontaneous speech. Vocalises can also be done. After several trials, fade tactile feedback aid to insure singer is able to produce sound independently. This will promote better carry over of this exercise.

Manual Techniques for Jaw Disorders in Singers

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Diagnostic Criteria for TMJ Disorders

TMD Classification	Specific Disorders
Internal Derangements	Disk displacement with reduction Acute disk displacement without reduction Chronic disk displacement without reduction
Joint Disorders	TMJ dislocation Inflammatory disorders Osteoarthritis
Muscular Disorders	Myofascial pain Myositis Myospasm Local myalgia

Incidence of TMD in Singers

- 73% of vocal performers demonstrated >3 active symptoms of TMJ Disorder (TMD)
 - Pain, joint sounds, limited opening
- The highest reported specific TMD symptoms were:
 - Popping 75%
 - Clicking 53%
 - Clenching: 75%
 - Sore teeth: 60%
 - Locking: 27%
 - Cervical spine symptoms: 93%
- TMD symptoms were not related to # of years of vocal training or style(s) of singing studied

Hypermobility versus Hypomobility Syndromes

Hypermobility
Primary Hypomobility
Secondary Hypomobility

Benefits of Manual Techniques for Hypomobility Syndromes:

1. Immediate singer response
2. Symptoms resolve quickly
3. Easy and Efficient for clinician
4. Good for self-care

Response in tissues ~ Response from singers

- | | |
|---|--|
| <ul style="list-style-type: none"> Increased mouth opening and increased protrusion Increased alignment of muscle and collagen fibers Decreased spasm in muscle Improved joint capsule mobility Decreased pain & joint sounds Effects in adjacent segments (head, neck, shoulders, posture) | <ul style="list-style-type: none"> Resonant quality improved Compensatory behaviors can be reduced Connection to breath improved Promotes technical and artistic freedom |
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Specific Considerations for Manual Techniques

- Hand and Finger Placement
- Comfort of singer
- Subtle techniques
- Continued practice by clinician
- Markers of other pathology mimicking TMD

(Selected) Manual Techniques

- | | |
|------------------------------------|--------------------------|
| 1. Masseter Release | 4. Pterygoid Release |
| 2. Temporalis Release | 5. Zygomaticus Release |
| 3. Opening-Protrusion Mobilization | 6. Functional Transition |