Teaching Tongue-Tied Students: Ankyloglossia in the Instrumental Classroom

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Teaching Tongue-Tied Students

Ankyloglossia in the Instrumental Classroom

Ankyloglossia is a significant medical condition that has not been adequately addressed in music education literature. While practically every instructor will have students who struggle with ankyloglossia, many teachers are entirely unaware of this condition’s various symptoms and treatments. Ankyloglossia, more commonly known as tongue-tie, is a congenital oral anomaly in which the small fold of tissue that secures the tongue to the floor of the mouth is abnormally short and restricts the mobility of the tongue.\(^1\) Recent studies show that as much as 5 percent of the population suffers from tongue-tie.\(^2\) The condition disproportionately affects males, who account for as much as 86 percent of cases of tongue-tie.\(^3\)

While medical journals cite a number of symptoms of tongue-tie, including difficulties with speech, intraoral hygiene, and infant breastfeeding, none addresses the management of this condition among musicians.\(^4\) The tongue plays an important role in the performance of wind instruments, and students with tongue-tie may encounter numerous difficulties as a result of their tongue’s limited mobility. Because most music teachers will have students who struggle with tongue-tie, it is important that they understand how to assess and accommodate students who have this condition.

Assessing Ankyloglossia

When assessing tongue-tie in the music classroom, teachers must first know that cases of ankyloglossia vary greatly in severity. The lingual frenulum is the medical term for the small fold of tissue that secures the tongue to the floor of the mouth (see Figure 1). The Hazelbaker assessment tool for lingual frenulum function (HATLFF), which evaluates seven function and five appearance criteria, is perhaps the most comprehensive means of evaluating the tongue’s mobility.\(^5\) The length, location, and overall elasticity of this band of tissue greatly affect the tongue’s mobility. As a general rule, the shorter the frenulum, the more mobility is limited.

While tongue-tie is defined by the length of the frenulum, its location is also important. In general, the closer the frenulum is to the tip of the tongue, the greater the restriction it will impose. A frenulum connected to the very tip of the tongue will create tremendous limitations on the tongue’s mobility. (Compare Figures 2 through 4.) Such restriction will make articulating on a wind instrument particularly difficult.

The most severe cases of tongue-tie will likely include a frenulum that is short and located near the tip of the tongue. This oral configuration will impose a great deal of restriction on the tongue’s mobility. For example, clarinetists may be incapable of bringing the tip of the tongue to the tip of the reed, the conventional manner of articulation on that instrument. Similarly, trumpeters may be unable to bring the tongue to the intersection of the upper front teeth (incisors) and the hard palate. Musicians with more severe limitations

How can you assist students who have the medical condition called tongue-tie? This article offers some useful initial responses and suggestions for the classroom.

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on the tongue's mobility may elect to have a surgical procedure to correct this problem. (This type of surgery is discussed later in this article.)

Mild to moderate cases of ankyloglossia cause less severe limitations on the tongue's mobility. Musicians with a moderate case of tongue-tie may have sufficient tongue mobility to perform basic articulations correctly, but may encounter difficulties with more advanced articulations. Because the connective tissue secures the tongue closer to its tip, elevation of the tip of the tongue will pose a great challenge and may require an alternate tongue placement. For example, trumpet players commonly lower their jaw when producing pitches in the lower register. Because they generally tongue at the intersection of the top teeth and the hard palate, trumpet players with tongue-tie will likely have a great deal of difficulty raising the tongue from this lowered jaw position to the roof of the mouth. Such an individual has a variety of options for coping with tongue-tie, including raising the jaw during articulation or tonguing in a nontraditional location.

Ankyloglossia in Instrumental Performance

Several nontraditional articulation locations (of varying degrees of acceptance) exist. For example, trumpet players with tongue-tie may elect to use a less common type of articulation known as dorsal tonguing. With this method, sometimes called "anchor tonguing," the tongue is placed against the back of the lower front teeth, instead of the traditional location behind the top teeth. While the overwhelming consensus among trumpet teachers is to tongue behind the top teeth, some performers and teachers have used dorsal tonguing with a great deal of success, most notably, the famous cornet soloist Herbert L. Clarke.

It should be noted that ankyloglossia should not interfere with a student's ability to multiple tongue. Many students with tongue-tie learn to multiple tongue with great success. Multiple tonguing, such as using tu-ku to double-tongue on a brass instrument, involves one articulation in the front of the mouth (tu, du, etc.) and one closer to the back of the mouth (ku, gu, etc.). Because ankyloglossia primarily affects the mobility of the tongue's tip, it should not interfere with the ku articulation in the back of the mouth. Moreover, a music teacher should not interpret a student's difficulty with multiple tonguing as a possible sign of ankyloglossia.

One articulation that is virtually impossible for musicians with ankyloglossia is the flutter tongue. In the flutter tongue, one performs an alveolar trill while blowing a steady stream of air into a wind instrument, just as if rolling the letter R in Spanish. The limited mobility imposed by tongue-tie makes this rapid oscillation of the tongue practically impossible. However, it should be noted that an inability to flutter tongue does not necessarily mean that a performer has ankyloglossia. Many conceptual and cultural factors also affect one's ability to flutter tongue.

Adaptation

One method students may use to accommodate tongue-tie in instrumental music performance is adaptation. Adaptation is appropriate for musicians with mild to moderate cases of tongue-tie. These individuals may successfully adapt their tongue placement to accommodate their limited tongue mobility. Dorsal tonguing, mentioned earlier, is one example of an alternate tongue placement for students with ankyloglossia.

When working with students with tongue-tie, it is important to remember the relationship between articulation and speech. Articulation for a wind player is like diction for a singer. Many studies have documented the effects of ankyloglossia on speech, and one practical way of addressing the tongue's limited mobility is through attention to the student's speech. For example, instead of providing elaborate instructions on the placement of the tongue within the mouth, a teacher can focus on the syllables involved in the conceptual aspect of articulation. A teacher should have the student speak the syllables appropriate for articulation on their respective instrument, such as a tu, ta, da, tu, and so on. Until the student can accurately reproduce these syllables in speech,
it is not likely that they will achieve satisfactory results in their articulation on a wind instrument.

It is important to note that teachers working with students who struggle with ankyloglossia should avoid overly technical explanations of the physiology of the tongue, as these students will likely differ in the exact location and execution of tonguing patterns. Additionally, specific technical instructions, such as “Place your tongue behind your top front teeth,” may actually be impossible to follow for students with more severe cases of tongue-tie. Instead, teachers should focus on the sound that is desired, with frequent modeling and demonstration. They should frequently model the sounds of consonants, such as D and T, and have the student replicate the sound as best he or she can. The focus should be on the product, not the process.

Medical Treatment

Moderate to severe cases of tongue-tie may necessitate surgery. Two surgical procedures are commonly performed: frenotomy and frenuloplasty. Frenotomy, commonly known as “clipping,” is a simple procedure that releases the tongue and can be performed with or without anesthesia. While this is a straightforward, relatively painless procedure, it is generally recommended only for infants. For older children and adults, the preferred procedure is frenuloplasty. Frenuloplasty includes not only the release of the frenulum but also plastic surgery to more completely correct the problem. The procedure takes only a few minutes to perform, and bleeding is minimal.

While medical research shows that these two surgical procedures are highly successful, musicians should be aware of their possible risks. While no extensive study of tongue-tie release on musicians has yet been conducted, there are numerous studies that examine its effects on speech. In one recent study, 7 percent of speech pathologists report that surgical correction of tongue-tie results in additional speech problems. Music teachers should be aware that these procedures may force students to relearn the fundamentals of articulation on their instrument. While the ultimate result is greater freedom and function, learning to play (and speak) with a different degree of tongue mobility can be both challenging and frustrating. Nevertheless, in cases of severe tongue-tie, surgery may be the only solution.

In some cases, medical professionals diagnose and treat severe cases of ankyloglossia when the patient is very young, before a student learns to play a wind instrument. Recent medical literature certainly addresses the need to treat tongue-tie. Authors of 179 articles written between 1968 and 2003 share an overwhelming consensus that surgery is necessary to release the tongue-tie. However, not all medical professionals have adequate training to treat ankyloglossia; as few as 10 percent of pediatricians report that they were taught how to surgically repair tongue-tie in their residency. This means that tongue-tie may be overlooked and not discovered until a young person encounters a difficulty on a wind instrument.

Be Prepared

Music educators need to be aware of the symptoms and treatments of ankyloglossia. If a teacher notices a student is having difficulties in articulation, it is possible to quickly determine if tongue-tie is likely. There are at least three quick methods of evaluating the tongue's mobility: (1) Can the student extend his or her tongue beyond the threshold of the lower lip? (2) Can the student curl the tongue into a U shape? (3) Can the student flutter the tongue (rolling the consonant R)? If the answer to one or more of these questions is no, the teacher should refer the student to a medical professional who can provide a proper evaluation and suggest a method of treatment.

This article is not intended as a comprehensive guide to the diagnosis and treatment of tongue-tie in the music classroom. Further research in many different areas of ankyloglossia is still needed. Possible future studies include the incidence of tongue-tie among wind players, the variation in articulation patterns of students with tongue-tie, alternatives to sur-
gery, and the effects of various surgical treatments on the articulation of performers of wind instruments.

While only a medical professional can properly diagnose and treat a patient with tongue-tie, music educators must be prepared to appropriately respond to its occurrence in the classroom. With proper diagnosis and management, music teachers and students alike can easily conquer ankyloglossia.

**Notes**

7. Ibid.
9. Ibid.
10. Ibid.
11. Ibid.
13. Ibid.