

The Changing Adolescent Voice - boys

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Introduction

Most boys now begin voice change at 12 – 13 yrs of age, it reaches its most active phase between 13 and 14 years and then settles between 15 and 18 years.

In order to be able to deal with this situation in an effective and enlightened way, it is important to understand the nature of the changing voice and to have a policy influenced by the most recent and comprehensive voice education research.

Historical Context

Although the issues raised by singing during voice change are relatively new in the context of cathedral choirs, they are not new to voice educators.

We can see a differing of opinions emerging from the late 19th Century and through the 20th Century. To generalise, the opinion of the more progressive voice educators in secondary schools was to encourage singing throughout adolescence but to ensure that there was enough repertoire with appropriate vocal ranges for developing voices.

The traditionalists, on the other hand, would keep each boy on the treble line for as long as possible until his voice was under so much strain that it would give way suddenly and alarmingly i.e. 'break'. He would then rest for a year or two before being put into another voice part of the SATB choir, the standard repertoire for which expects a pitch range essentially only appropriate for mature adult voices.

The result of this latter approach has led to strong opposition to choral singing from singing teachers working with young adult voices. Research in Germany in the 1920s¹ and 1930s² showed that, at most, only 2% of former choirboys became singers in their adult life. Although it would be good to say that this is no longer the case, many singing teachers still maintain that it is. It is advisable to err on the side of caution when dealing with voices at their most vulnerable stage of development.

¹ Hess L, *Die Behandlung der Stimme vor, Warland und nach der Mutation*. Marburg, Elvert. 1927.

² Laumann J, *Problem der Knaberstimme*. Stimme (Berlin), 27. 1932

Physiological changes in adolescence

We prefer to talk about voice mutation as voices “changing” rather than “breaking” as the latter term implies damage in some form and can lead to undercurrents of anxiety in some boys. The physical changes at adolescence are normal, as are the emotional, social and cultural ones; voice change should be perceived as a beginning and not an end.

Development through childhood (approx age 7 to 12) is essentially gradual. Lung volume and laryngeal dimensions increase in less noticeable stages, the overall pattern is steady.

Development through adolescence is in more obvious “growth spurts” or stages. The growth of the larynx mirrors the observable overall growth of the individual. If the boy is undergoing a growth spurt with a noticeable height gain, his larynx and its associated skeletal and muscular anatomy will be undergoing similar enlargement. This is then followed by a period of stabilisation. This growth pattern is caused by hormonal levels and cannot be slowed down or sped up except by artificial hormonal input or severe malnutrition; in a normal healthy boy it is an unstoppable process.

The most noticeable laryngeal growth and therefore the mid-point of voice change occurs mid-way through the following invariable sequence of developmental stages (individual stages will vary in duration).

- 1 Genital development
- 2 Height spurt
- 3 Pubic hair
- 4 Auxiliary hair
- 5 Facial hair

Identification of the Developmental Stages

The most reliable method of assessing pubertal development, used by the medical profession, is the Tanner system of 5 stages of physical development¹. There is a very good correlation between Tanner’s classification of developmental stages and that of John Cooksey

Until the presentation of research carried out by Cooksey in 1985², there were many differing opinions of the effects of singing during adolescent voice change. These were largely based on subjective interpretations of personal experiences, as there was a paucity of scientific research to help clarify the controversies.

¹ Tanner J, *Growth at adolescence*. Oxford: Blackwell Scientific Publications. 1962

² Cooksey J, et al. *A longitudinal investigation of selected vocal, physiologic and acoustic factors associated with voice maturation in the junior high school male adolescent*. Proceedings: Research symposium on the male adolescent voice, pp4-60. Buffalo, NY: State University of New York at Buffalo Press. 1984

The Changing Adolescent Voice in the Choir: Recognition and assessment of the developmental stages

It can be assumed that all boys up to and including year 6 will have unchanged voices.

Possible signs of change to Stages I and II

- Growth spurt
- Change of timbre in the mid-range of the singing voice
- Decrease in control at the top of the singing range
- Change in timbre of speaking voice
- Increased variability, more 'off' days

The pitch ranges of each stage of voice change

The diagram shows two staves of music. The top staff is in treble clef and the bottom staff is in bass clef. An upward-pointing arrow is above the first note on the treble staff, and a downward-pointing arrow is below the last note on the bass staff. The notes are as follows:

Stage	Treble Clef (Pitch)	Bass Clef (Pitch)
Unchanged	Two notes: one filled, one unfilled (marked with an asterisk *).	Two notes: one filled, one unfilled (marked with an asterisk *).
Stage I	Two notes: one filled, one unfilled (marked with an asterisk *).	Two notes: one filled, one unfilled (marked with an asterisk *).
Stage II	Two notes: one filled, one unfilled (marked with an asterisk *).	Two notes: one filled, one unfilled (marked with an asterisk *).
Stage III	Two notes: one filled, one unfilled (marked with an asterisk *).	Two notes: one filled, one unfilled (marked with an asterisk *).
Stage IV	Two notes: one filled, one unfilled (marked with an asterisk *).	Two notes: one filled, one unfilled (marked with an asterisk *).
Stage V	Two notes: one filled, one unfilled (marked with an asterisk *).	Two notes: one filled, one unfilled (marked with an asterisk *).

Below the staves, the stages are labeled: Unchanged, Stage I, Stage II, Stage III, Stage IV, and Stage V. Under Stage II, the label 'Alto' is present. Under Stage III, the label 'New Tenor' is present. Under Stage IV, the label 'New Baritone' is present. Under Stage V, the label 'Settling voice' is present.

The pitch ranges show:

- 1 *Extended singing range* (unfilled note). This is the pitch range possible with no observable sign of strain and without using falsetto.
- 2 *Comfortable modal singing range* (filled note).
- 3 *Speech fundamental frequency* (cross). This can be ascertained simply by asking the boy to count backwards from 20 and observe the pitch at which his voice settles most comfortably. This is usually three to four semitones above his lowest comfortable singing pitch.

Observable signs of strain may be visual (increased jaw or neck tension) and aural (voice becoming hoarse, scratchy, breathy or constricted). These seemingly subjective criteria will nonetheless become increasingly evident beyond certain pitches.

There tends to be more stability and less individual variation in the lower pitch range limits throughout the different stages of voice maturation than in the upper pitch range limits. Therefore it is more reliable to judge the developmental stage by the lower range and by the fundamental frequency of speech.

Procedural guidelines

As a general guide, the position of boys as trebles should be re-assessed as they enter Stage II and boys should not be expected to sing treble in and beyond Stage III.

As the boy moves through the stages, he can move down through the choir into Alto, Tenor and Bass. Nearly all boys will need to join the Bass section for a time, until their voices settle and can be re-assessed as young adult voices.

If there is any doubt, the voice part should be allocated on the lowest available notes, not the highest. It is far less damaging to sing in the lower pitch range for a growing and changing voice.

The male larynx continues to modify and develop in the early 20s. Although the voice type may be evident by the time a boy leaves school, he has to be open to the possibility of further change.

Boys should be encouraged to sing throughout voice change. There is a growing body of choral arrangements made specifically for developing voices, with a limited pitch range for each part. If the boy is to sing in a traditional SATB choir, there are options for re-allocating specific phrases eg. high tenor parts to the altos. With some adaptability and imagination, the changing voice can continue to be a valuable contribution to a choir and an invaluable asset for the future.