

CRACK HAPPENS: *STRATEGIES FOR GUIDING AND NURTURING THE ADOLESCENT VOICE*

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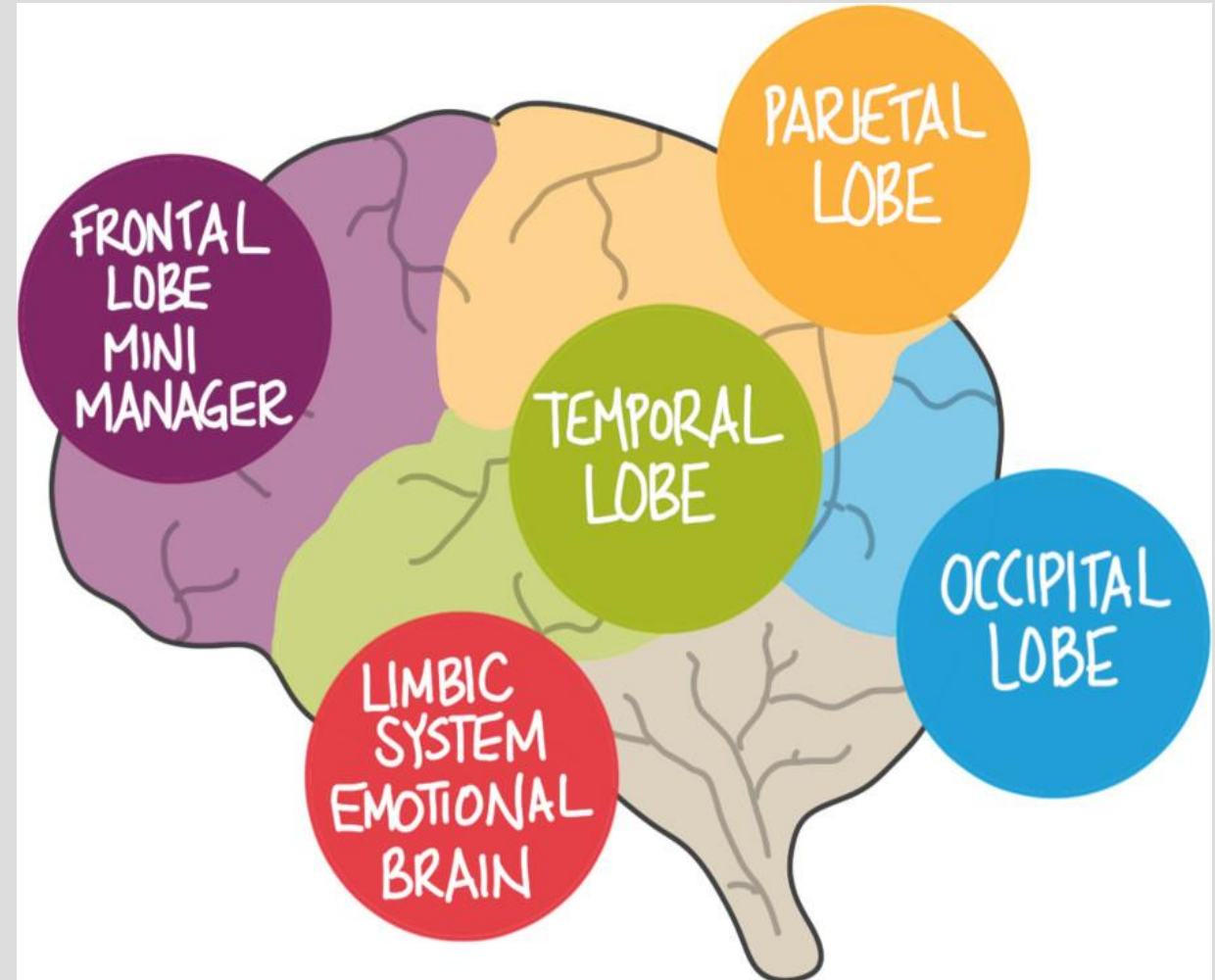
- Question #1: What one word do you use to describe adolescents?

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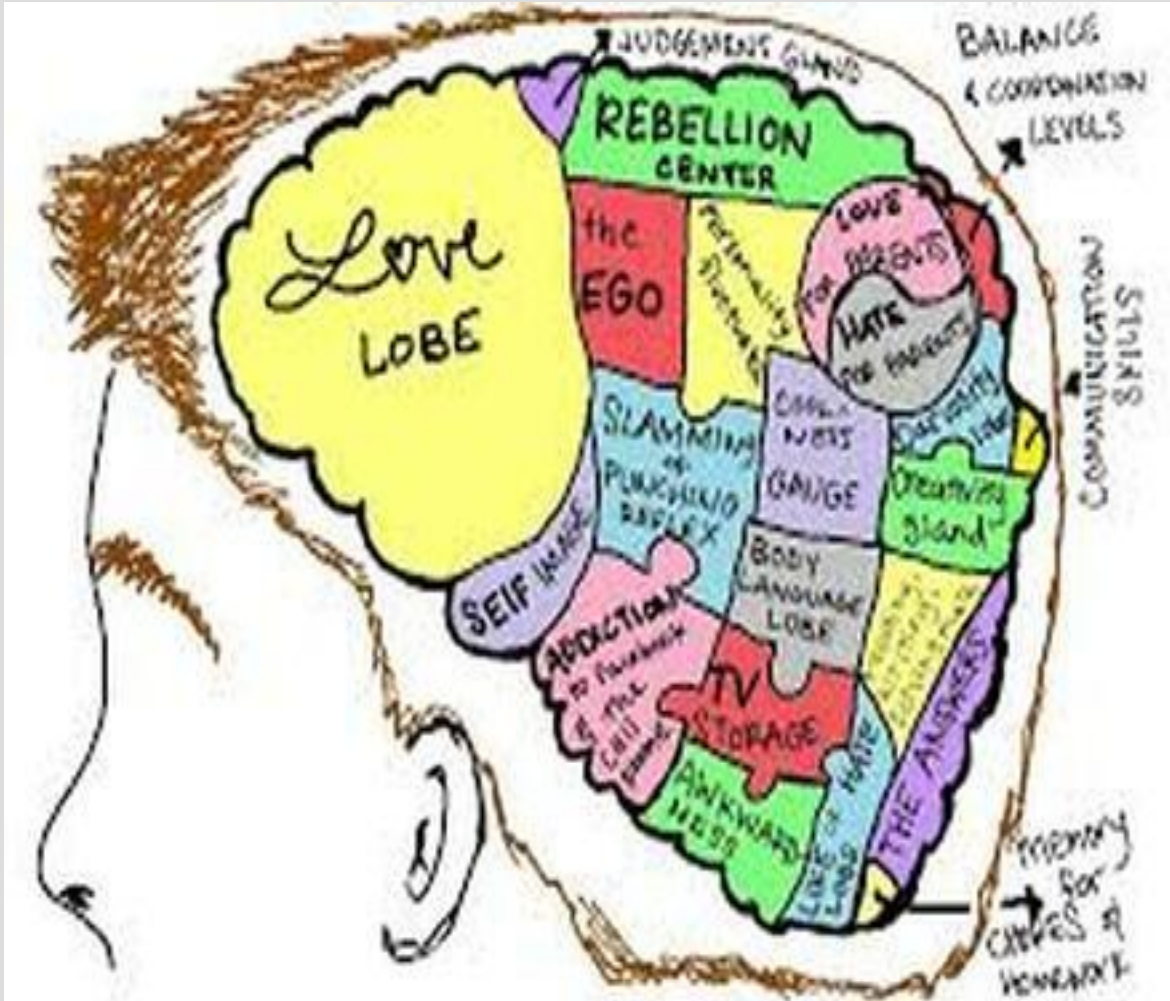
- Question #2: What is one thing you know about the adolescent voice?

THE BRAIN – YES THEY HAVE ONE

- The adolescent brain is a complex place:
 - It's going through more changes and receiving more stimuli than it can take
 - Frontal Lobe – higher processing functions
 - We don't get to experience this aspect much as it doesn't fully develop until mid 20's
 - We get the lack of impulse control and irrational behaviors while its developing
 - The temporal lobe does grow gradually and peaks around ages 14 – 16.
 - This is often why the main answer we receive is "I forgot"



THE BRAIN



- Learning is critical to both prospering and surviving.
- The brain filters out about 99% of the information coming from the senses to help us from being overwhelmed.
- Two factors that strongly influence whether the brain pays attention to a piece of information is
 1. If the information has **meaning**
 2. If the information causes **emotional response**

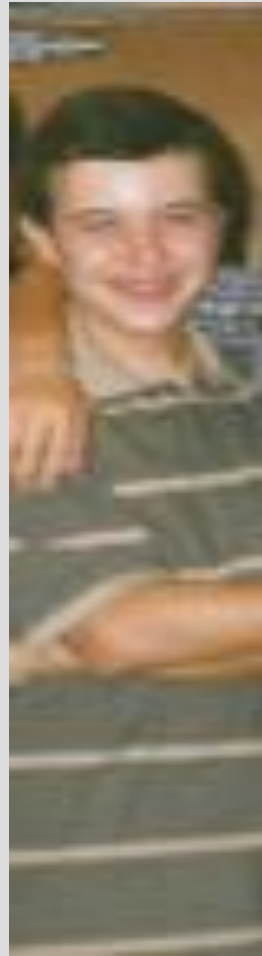
THINGS TO CONSIDER

1. A young adolescent brain can hold **seven items** of information, plus or minus two items, in working memory.
2. The addition of **emotion** can help students remember.
3. The brain is **social** and requires **interaction** in order to develop properly.
4. **Practice/rehearsal** is critical learning for long term.
5. We take in more information **visually** through any other sense.

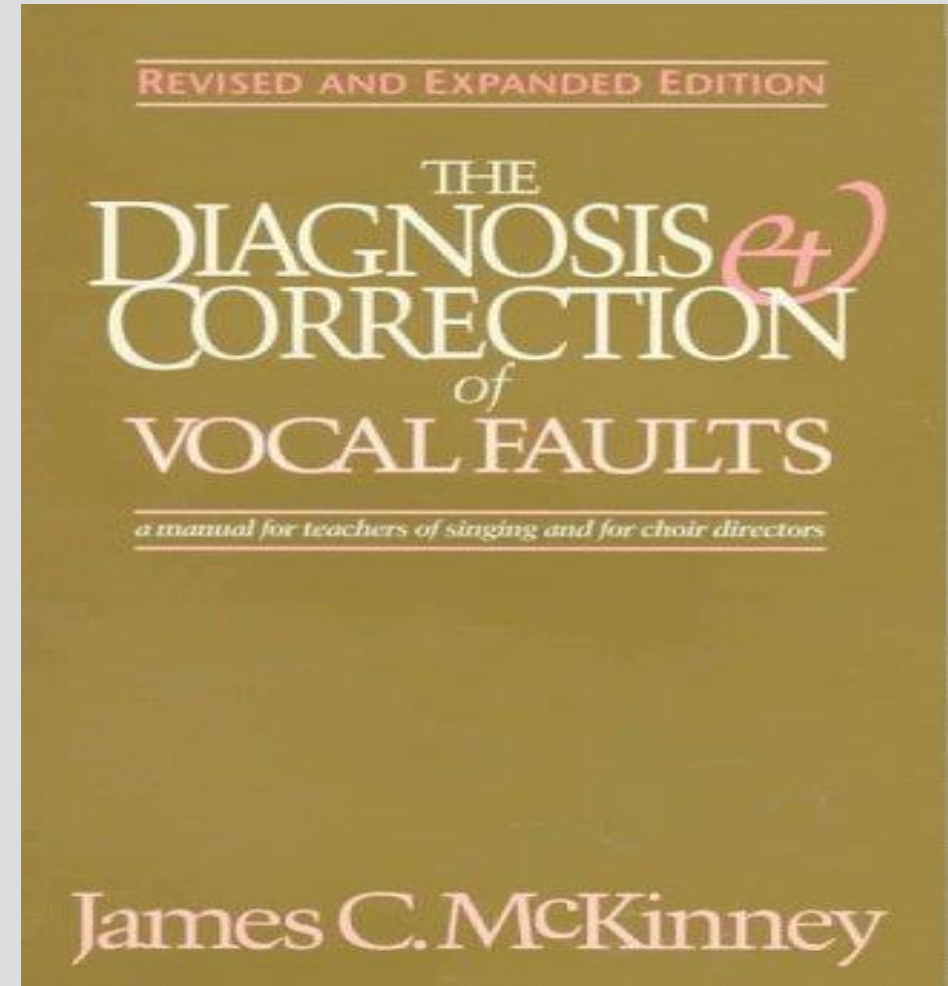


NAVIGATING THE ANATOMY OF THE EXPANDING VOICE

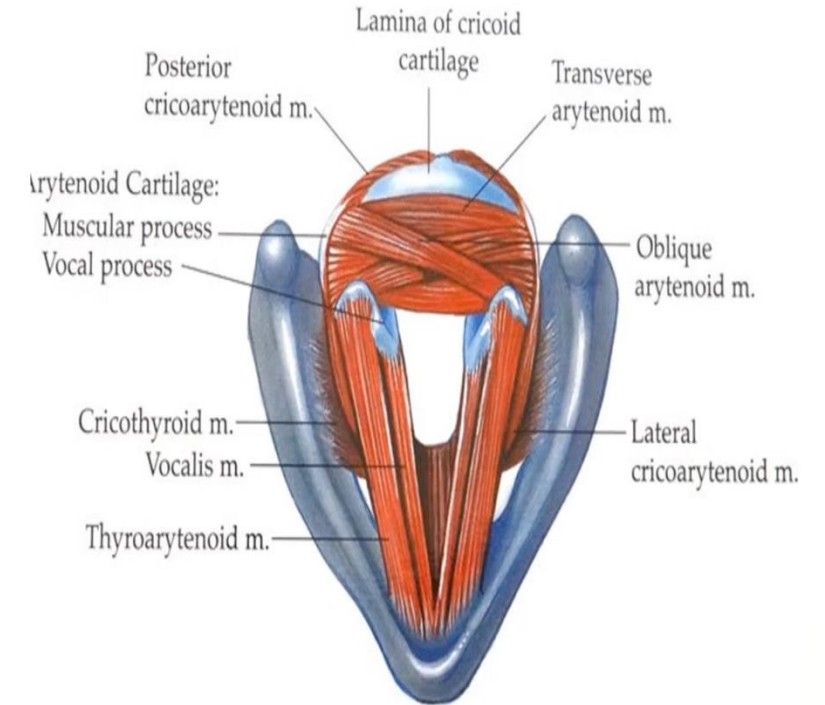
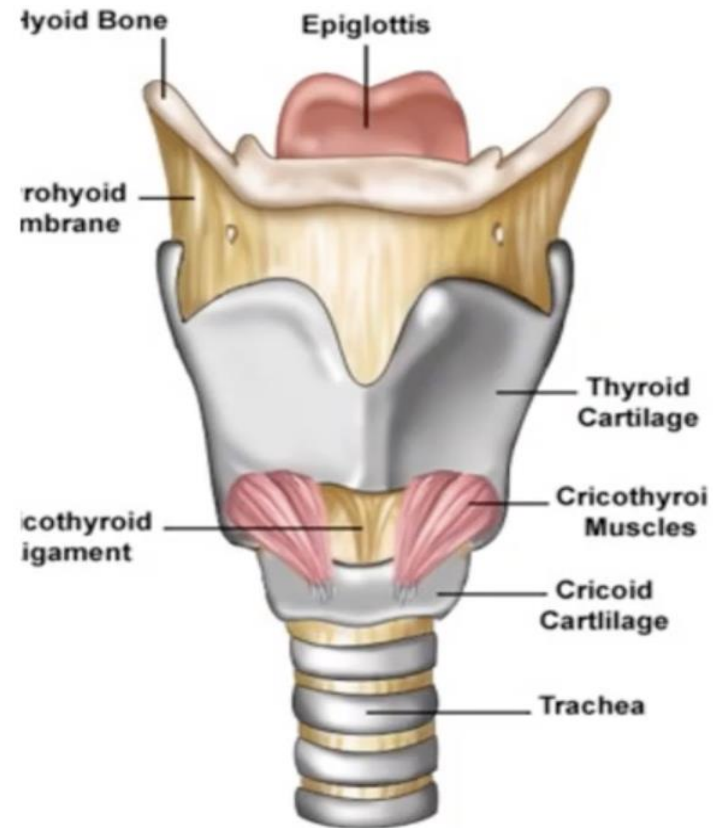
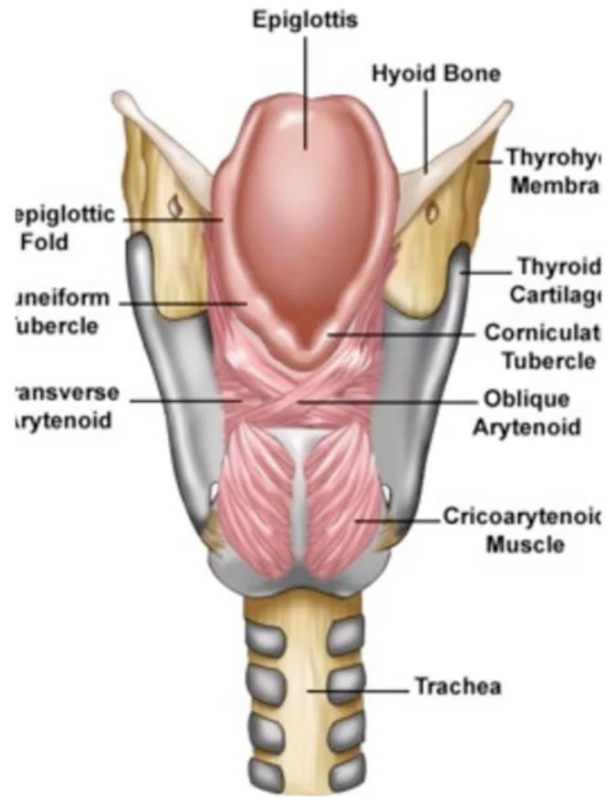
- Many students feel singing is a great mystery as they don't understand how their voice works.
- They are growing in height, weight, length and all of that is visible. But what's happening inside is harder for them to process.



- MS Eric
- HS Eric
- College Eric



NAVIGATING THE ANATOMY OF THE EXPANDING VOICE



"FOUND" MUSIC SCAVENGER HUNT

At home edition



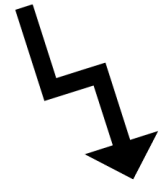
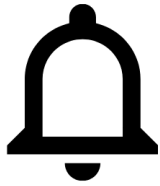
1 SOMETHING TO TAP

2 SOMETHING TO SHAKE



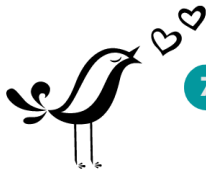
3 SOMETHING TO MOVE WITH

4 SOMETHING THAT RINGS HIGH!



5 SOMETHING THAT HUMS LOW

6 SOMETHING THAT ECHOES

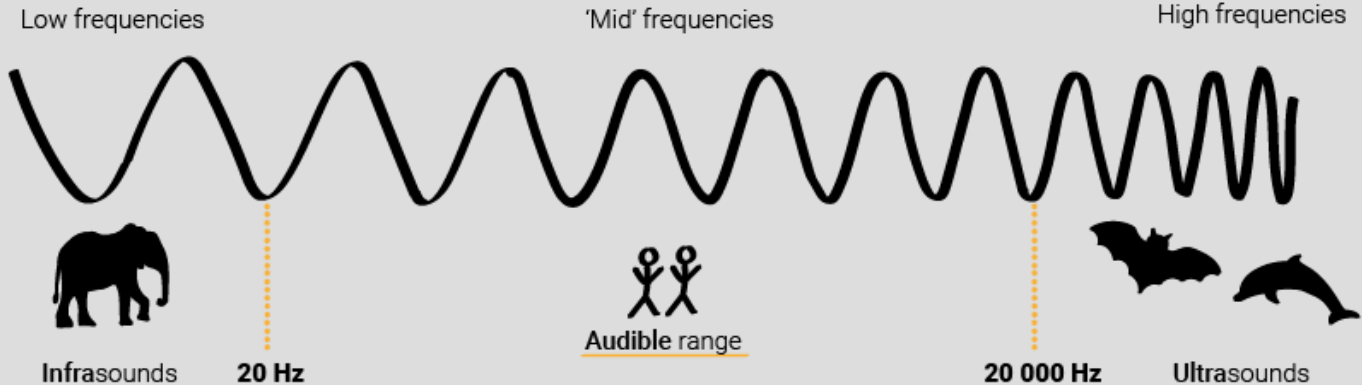
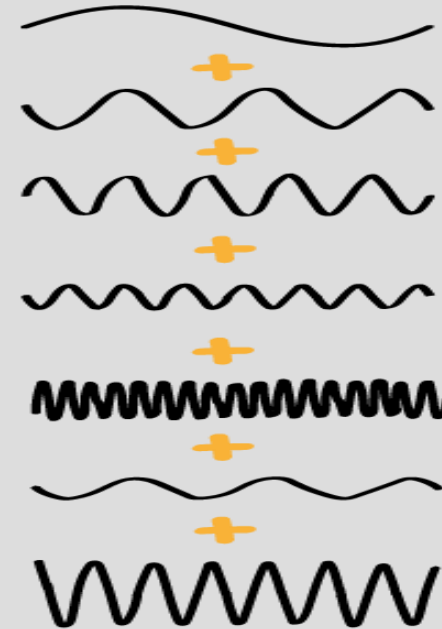


7 SOMETHING THAT SINGS

INTRODUCTIONS VIA SOUND

Natural sound

Perfect sounds
(pitches)



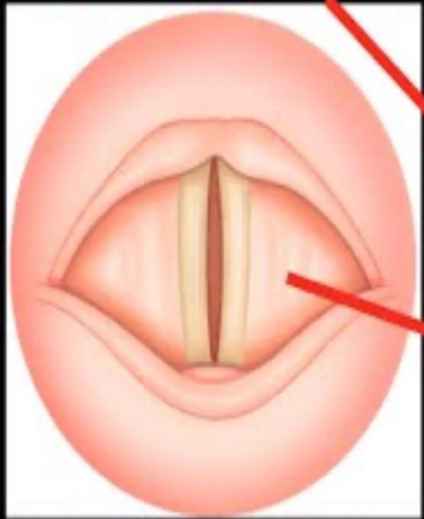
INTRODUCTION TO THE VOCAL FOLDS

- Viewed from top down on horizontal plane in real life, not horizontal.
- Peace Sign Anatomy
 - Demonstrates they are horizontal not vertical
- Rubber Band Analogy
 - Birth folds are around 6 to 8 millimeters
 - Estrogen impacted growth is found to be 1.25 cm to 1.75 cm thickness of #2 pencil
 - Testosterone impacted growth is found to be 1.75 cm to 2.5. cm thickness of a dime
 - Weight Band exercise
- Zipper Arm Example



REMOVE THE MYSTERY –
GIVE THEM THE GROSS

Vocal Cords

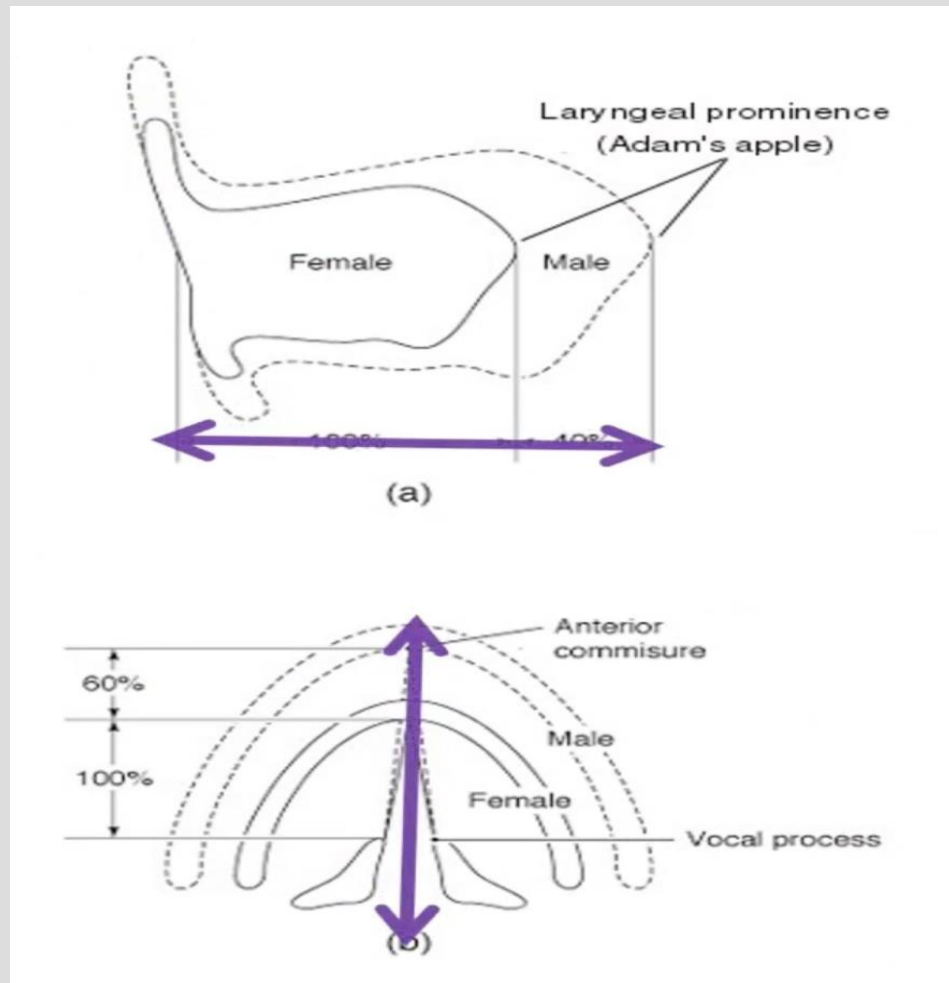


How Do Vocal Cords Work When You Sing?

**VOCAL
CHORDS**



FEELING THE ANATOMY OF CHANGING VOICE



- The larynx is a hormonal target organ and is the size of a walnut
- Male's do receive a bit of an outward experience as the male larynx grows in circumference producing the Adam's apple.
 - Search for the "open house neck"
- The female larynx grows most significantly in height.
 - [Build your own larynx](#)
 - Give that concrete learning opportunity!

WHY CRACK HAPPENS

- The smoothness of the voice is grounded in how "periodic" the vocal folds vibrate.
 - At middle C, the vocal folds vibrate about 262 times a second (cycle of contact and de-contact).
- If the vibration stops for even a fraction of a second, our ears (and our brains which actually process the sound) hear a crack, or interruption of sound.
 - Drop of thick mucus getting caught between the vocal folds
 - Sudden tightness of the vocal fold muscles
- Most familiar crack with untrained male singers is between the head voice and falsetto registers
 - The vocal folds are just under too much tension to vibrate happily here

From Brothers, Sing On! by Jonathan Palant

“IT’S” HAPPENING!

- Puberty is happening later in most developed countries than in the United States.
- Females frequently start exhibiting the signs of puberty sooner than boys, but usually during the mid-teenage years, everyone is experiencing the transition to adulthood.
 - Previously the average age within which American Girls got their period was 16 or 17. Today that number has decreased to 12 or 13 years of age.
 - Per findings males are now beginning puberty around or a little before age 10. Previously this was seen at around age 11.
- There is no definitive answer why puberty is happening sooner, but some theorize:
 - Increased body mass index in children
 - Nutritional factors
 - Hormone influences in dietary intake

WHAT DO WE CALL IT?

- Change vs. Expansion
 - Henry Leck's 2009 Choral Journal Article

The Boy's ~~Changing~~ Expanding Voice: Take The High Road

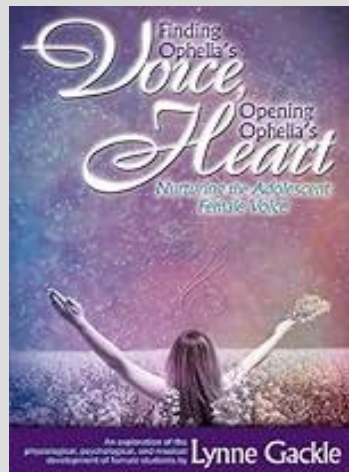
by

Henry H. Leck

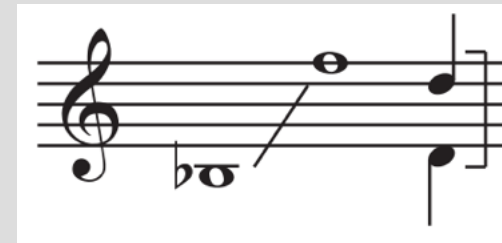
- Freer (2010) with regards to adolescent males, supports the use of the term expansion over change as it:
 - encompasses all that we know about the male changing voice and provides a label that is at once descriptive, precise, and future oriented....There is nothing limiting about expansion – it is a boundlessly optimistic phenomenon. We want our students to not feel limited by what is occurring physiologically in their bodies. (p. 29)

TREBLE VOICE CHANGE/EXPANSION

- Lynne Gackle through her work with the Miami Girl's Chorus started to document the noticeable changes in her singers.
- Research hadn't really existed in the treble voice change the way it had in the male voice change until her work
- 1991 – “shades” of change
- 2006 - “phases” of change



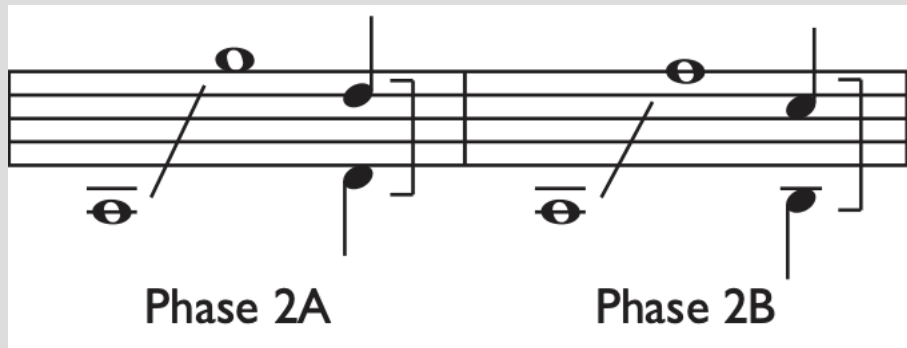
- **Phase I: The Unchanged Voice**
 - Approximately 8 – 11 years of age
 - Clear, flutey, bell like tone
 - Flexible and without register breaks
 - Little to no vibrato
 - Basic dynamics are generally easily performed



TREBLE VOICE CHANGE/EXPANSION

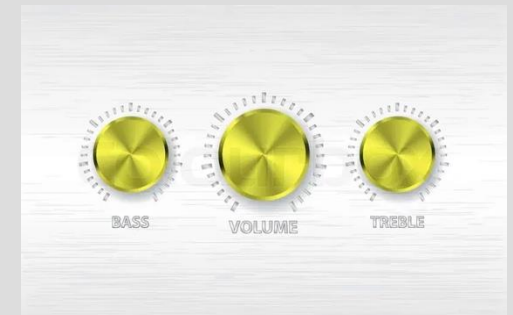
• Phase 2A: Pre-menarcheal

- Approximately 11 – 13 years of age
- Breathiness in tone – hairdryer
 - Goal post fingers
- Voice is expanding but has holes leading to inconsistent range
- Lift points start to emerge
- “Enter the cocoon”



• Phase 2B: Post-menarcheal

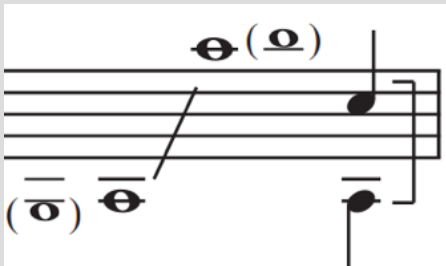
- Approximately 12 – 15 years of age
- Huskiness and voice cracking
- Difficulty or discomfort in places of the voice
 - Hand Larynx example
- More resonant in the bottom register
- More breathiness in tone - big hairdryer
- More evident lift points
- Stage fright



TREBLE VOICE CHANGE/EXPANSION

• **Phase 3: The Emerging Young Adult Female Voice**

- Approximately 14 – 18 year of age and beyond
- Richness and greater consistency
- Emergence of vibrato
- Lot less hairdryer effect
- More pronounced dynamic contrast and resonance
- Development of the passagio



- Beyond this phase, the voice continues to grow and develop vocally.
- The vocal tract slows development by age 21 due to the consistency of hormones and the stopping of the physical growth, but the body continues to strengthen.
- The quality and depth of the voice will continue to emerge into the 20's and 30's.

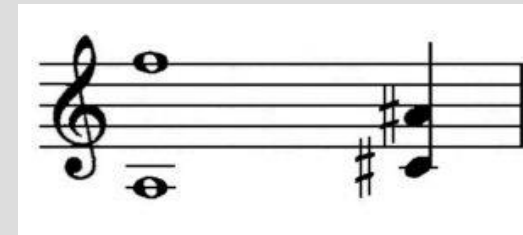
ADOLESCENT MALE VOICE CHANGE/EXPANSION

- Widely Researched

- 1885 – Behnke and Brown
 - Registers of the voice and treat voice breaks similar to a muscle sprain and rest it
- 1956 – McKenzie
 - Alto-Tenor Plan
- 1965 – Cooper and Kuersteiner
 - Cambiata Plan with four stages
- 1973 – Swanson
 - Groupings related to puberty
- 1977 – Cooksey
 - Contemporary- Eclectic Theory gives us six voice stages

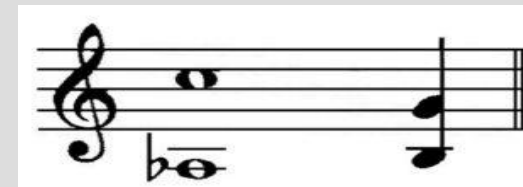
- **Stage 1: Unchanged Voice**

- Light speaking voice
- Full, soprano-like quality
- Great resonance
- Flexibility



- **Stage 2: Midvoice I**

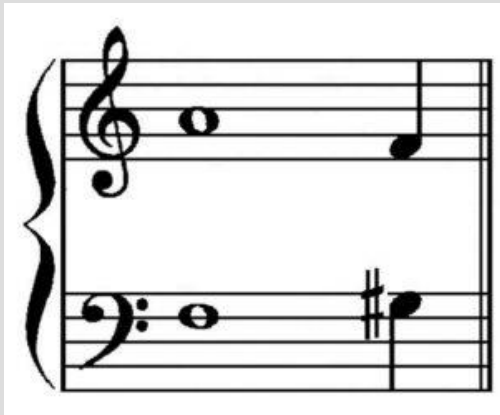
- Breathier lighter speaking voice
- Loss of tonal clarity and richness in high pitches
- Not as flexible due to vocal folds increasing in size



ADOLESCENT MALE VOICE CHANGE/EXPANSION

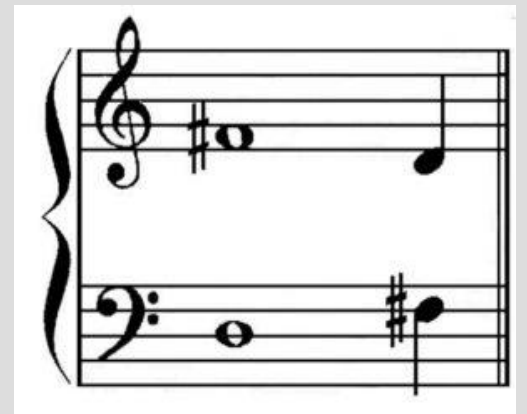
• Stage 3: Midvoice 2

- Huskier, thicker, and sometimes breathier tone
- Decreased projection and agility
- Falsetto Emerges
- Alto too high, tenor too low



• Stage 4: Midvoice 2A

- Speaking voice is huskier and thicker than previous stage
- Difficulties in matching pitch/intonation
 - Most insecure time
- Apparent register breaks
- Voice is weaker and less flexible than previously noted



ADOLESCENT MALE VOICE CHANGE/EXPANSION

• Stage 5: New Baritone

- Speaking voice is lower but has a thin quality
- Lower pitches are firm and clear, yet immature
- Lacks agility but becomes heavy at loud dynamics
- Falsetto may “pop” leaving a “blank spot” – lots of crack happening here
- Frequent flattening of pitch occurs when overworked



• Stage 6: Settling Baritone

- Thicker, heavier speaking voice
- More consistency in voice production
- Clear and focused sound, but still lacking adult quality
- More flexible in upper range and in transition to falsetto
- Register transition area is slightly lower than New Baritone
- Still has tendency to push



WE'RE ALL IN THIS TOGETHER

- Knowledge is key, don't be afraid to have the talk, and have it EVERY year!
 - Each conversation is another coat of paint on the walls. ~ Bridget Sweet
- Be realistic with your singers but create a safe environment.
 - It's ok to say out loud that the voice change is difficult!
 - For the singers struggling through the vocal changes keep assuring them that they are **NORMAL**. Let them know the initial “sounds of chaos” are a necessary part of the journey.
 - Create a “sign” that they can use to inform you they are having vocal difficulty (peace sign at larynx). Don't forget to follow up with them so they can keep you in the loop and you can know if they are taking a break for real or not.
- Be careful as not all young voices are ready to be labeled.
 - Avoid associating gender with parts.
- Adolescents struggle to keep the bigger picture in their mind. They struggle to see the forest through the trees most days, so arm them with knowledge and support and they will flourish!

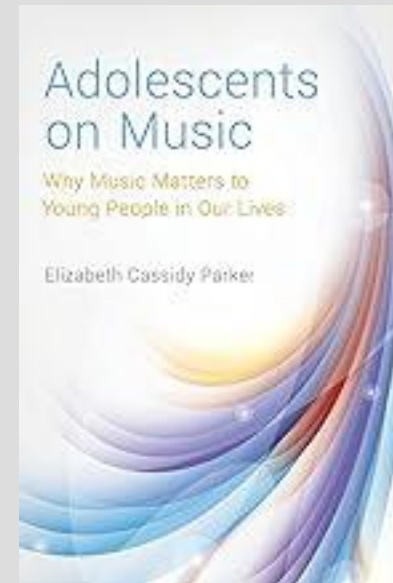
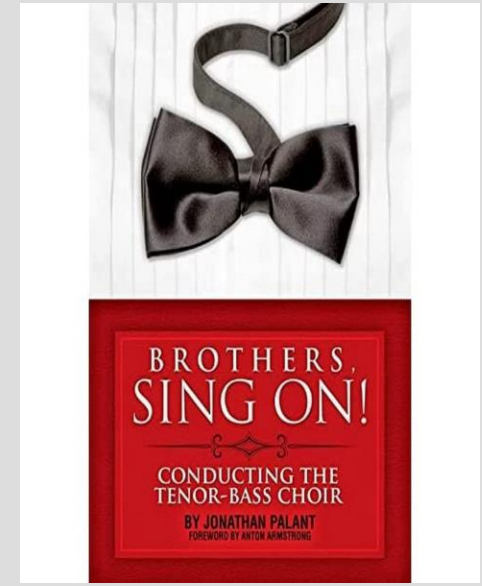
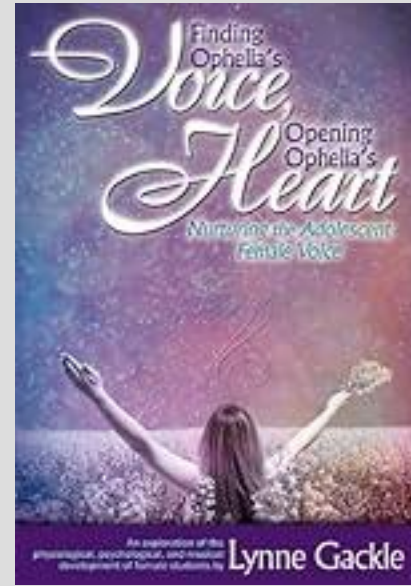
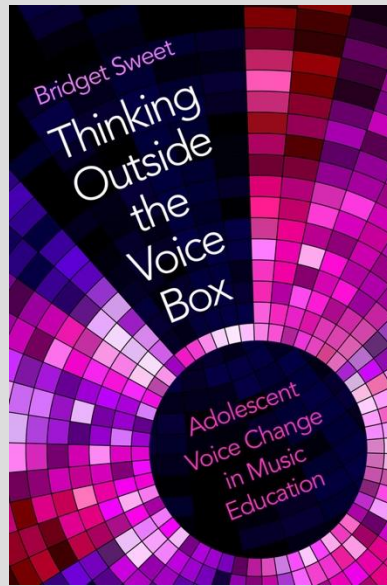
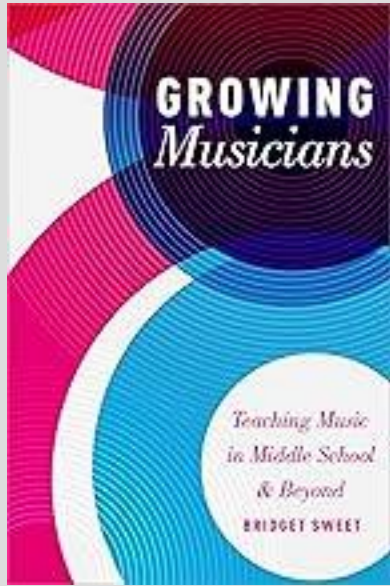
JUST REMEMBER

There is no music
without people, and
there is no music
making without safety.

~ Honoring Trans and Gender-Expansive
Students in Music Education

“We can complain
because rose bushes
have thorns, or rejoice
because thorn bushes
have roses.”

~ Abraham Lincoln



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