

Singing Through the Transition
The adolescent, early adult, and transgender voice changes
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Slides & outline available at www.ryanaolsen.com/handouts

Reviewing the structures of the larynx

Hard Tissues (cartilage and bone)

- Thyroid Cartilage – large cartilage shaped somewhat like a medieval shield (thyroid means “shield”) that houses the vocal folds. Prominence is the “Adam’s Apple”
- Cricoid Cartilage – smaller cartilage beneath the thyroid shaped more like a signet ring when viewed from above (cricoid means “ring”). Topmost cartilage of the trachea
- Hyoid bone (only bone in the larynx) - acts as suspension system for rest of larynx
 - Tongue connects to hyoid bone
 - Hyoid bone hinges upward when swallowing
- Boys' larynx grows more anterior to posterior than girls' during puberty to account for more length and thickness of vocal folds (Adam's Apple)
- Hard tissues DO NOT grow/change with the administration of testosterone during transgender voice change, only puberty

Soft Tissues (muscles, tendons, ligaments)

- Cricothyroid pulls and tucks thyroid in order to lengthen vocal folds and raise pitch
- Interarytenoids - bring two arytenoids together to close rear portion of the glottis (weakness causes “mutational chink” in girls)
- Thyroarytenoid (scientific name for part of the vocal folds) muscle also lowers pitch by thickening vocal folds (less involved than cricothyroids)
- Unchanged voices avg of 2mm of vibrational length. Adult females avg 10mm and male avg 16mm vibrational length
- Thyroarytenoids will thicken, but not lengthen with the administration of testosterone in a transgender voice change.
 - Amount of testosterone taken can determine amount of thickening and therefore range shift. Less T = tenor range, more T = bass/baritone range

Extrinsic Musculature

- Many muscles responsible for posture, moving head/neck, swallowing, etc. can also raise or depress the larynx
 - Common culprits of raised larynx
 - Tongue Tension
 - Raising/jutting the chin
 - Common culprits of depressed larynx
 - Pulling head/chin back and down
 - Pulling tongue back
- Look for signs of strain (bulging veins, cords on neck, musculature at jaw)
- Should be able to turn head from side to side while singing without effecting tone

- Bobblehead exercise to find A/O joint
- Minimal jaw opening (pencil/pinky width)
- Sing [a] while rotating head & neck with various levels of tension and see how it impacts voice. Sing while raising, lowering, jutting chin. Sing with tongue tension (pull back, protrude, squeeze)
 - Dumb Tongue
- Tongue rolls & lip buzzes

Impact of posture/alignment and cell phone/tech gadget culture on head/neck/spine
 Impact of standing alignment on legs/hips/pelvis/lower spine. SHOES TOO!

Stages of Adolescent Changing Voice (see research of John Cooksey)

- Boys' voices progress through same basic phases
- Some pass quickly, some may linger
- Can take two full years to complete (average 14 months)
- Speaking fundamental frequency lies approximately minor 3rd above lowest singing tessitura
- Lower range tends to be more stable while upper range fluctuates dramatically

Transgender change from testosterone is similar in progression and generally faster since rest of larynx isn't growing

- Anatomy/physiology during puberty matters
- Administration of testosterone will cause vocal folds to thicken but not lengthen
- Larynx, vocal tract, resonators, and other hard tissues will not grow/change
- Common for a transmale singer to start developing low range to ease the transition (probably little sound below F3), just avoid vocal fry or pressing
- Transmale singers can continue to sing in head voice to help transition into lower register, but will likely never develop a falsetto tone
- Range may dramatically narrow during early phases of testosterone treatment, and will widen and stabilize around 6 months into administration of testosterone
- Vocal dysphoria may or may not occur

Meet Holden Madagame, transgender tenor opera singer

- Introduction Video <https://www.youtube.com/watch?v=PTtk-DIJ22c>
- 6 Weeks on T <https://www.youtube.com/watch?v=YkpHpOn4Tb0>
- 7 Months on T <https://www.youtube.com/watch?v=mbJk746OF1s>
- 16 Months on T <https://www.youtube.com/watch?v=BqaO196y9M8>

Psycho-Social Concerns

- Adolescence is a time of physical and social struggle and discovery
- Refer to voice parts by their technical names rather than gender pronouns
- Be aware of gendered speech habits (you guys, be a man, man up)
- Consider gender neutral ensemble names

- Place students in sections based upon voice range rather than gender (esp. MS!)
- Consider concert black or gender-neutral concert attire
- Be conscious of gender specific language in repertoire

What Happens During a Voice Crack?

- Abrupt register transition
- Musculature can't maintain tension and force release
- Muscles reengage after register transition
- Similar to manual transmission
- Can actually be beneficial in learning where a voice's passaggio points are located

More exercises and techniques

- Guitar peg
- Find and track speaking fundamental frequency (SFF)
- Track and train registration shifts
- Play fundamental frequency and dominant in left hand of piano
- Double voice part an octave (or two) above singing range if singer is struggling to match pitch
- Easier to match pitch with acoustic piano than electric/digital
- Chart vocal progress regularly
- Keep them singing, but make music fit the singer, not the singer fit the music!