



EMERALD
CHORAL ACADEMY

VOCAL ANATOMY 105: THE ARTICULATORS

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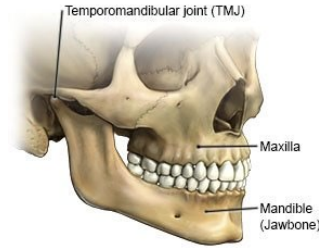
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REVIEW OF “SYSTEMS”

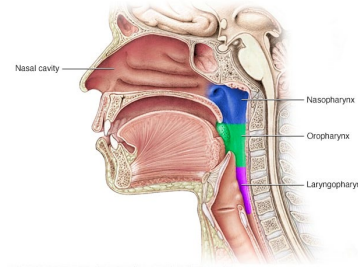
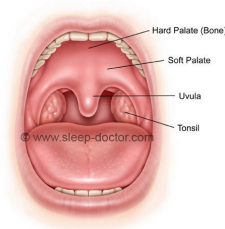
- ▶ RESPIRATION - lungs, muscles of inhalation and exhalation
 - ▶ Generator (power source)
- ▶ PHONATION - the larynx
 - ▶ Vibrator (source of sound)
- ▶ REGISTRATION - intrinsic laryngeal muscles
 - ▶ TA or CT “dominance” defines head vs. chest register
- ▶ RESONANCE - the vocal tract
 - ▶ Resonator (filter for sound created by the vocal folds)
- ▶ **ARTICULATION - *the lips, tongue, teeth, and palate***
 - ▶ ***Articulators - “interrupt” vowel sounds with consonants to form sung/spoken text***

FOUR MAIN STRUCTURES OF ARTICULATION

- ▶ The jaw
- ▶ The tongue
- ▶ The pharynx
- ▶ The palate



Jaw



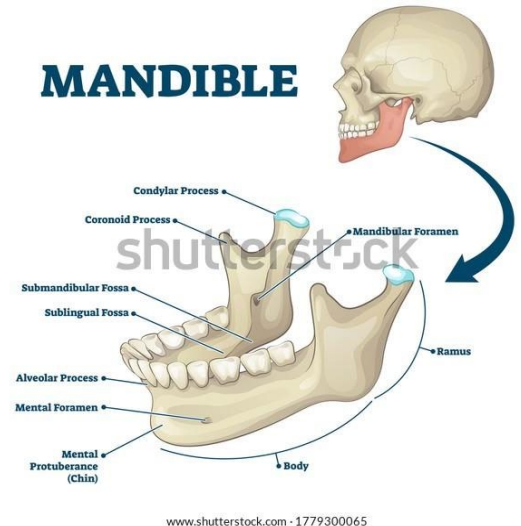
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ARTICULATION OVERVIEW

- ▶ Structures used for articulation also involved in other biological functions (swallowing, chewing, airway protection)
- ▶ Singer may need to work against natural articulatory reflexes
 - ▶ interdependence/independence
- ▶ Muscles also affect vocal tract shaping (acoustics)
 - ▶ resonance strategy/vocal timbre

THE JAW

- ▶ “upper/lower jaw” is not exactly accurate
 - ▶ The mandible is the movable jaw structure
- ▶ muscles open (depress) and close (elevate) the jaw
 - ▶ elevators stronger than depressors
 - ▶ can be a challenge/obstacle for singers
 - ▶ antagonistic muscle function
- ▶ Primary Jaw Elevators
 - ▶ Masseter
 - ▶ Internal (medial) Pterygoid
 - ▶ Temporalis
- ▶ Primary Jaw Depressors
 - ▶ Digastric
 - ▶ Mylohyoid
 - ▶ Geniohyoid



THE TONGUE

- ▶ Both intrinsic (inside the tongue) and extrinsic (connected at other points in the head and neck) muscles
 - ▶ Intrinsic muscles SHAPE the tongue
 - ▶ Extrinsic muscles extend, elevate, retract, depress, curl the tongue
- ▶ tongue position is vital for the articulation of language and shape of the vocal tract (maximizing resonance)
- ▶ Independence vs. interdependence

- ▶ STRETCHES
 - ▶ Tongue out
 - ▶ Tongue curl
 - ▶ Underside of tongue
 - ▶ Circular stretch



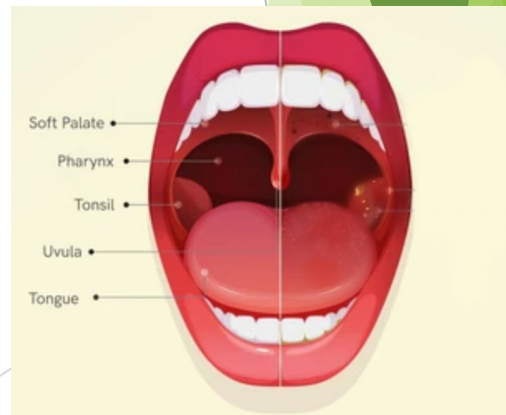
THE PALATE

- ▶ Hard (alveolar ridge) and soft (velum) sections make up the palate
 - ▶ Integral for the swallowing process; moves with the tongue, pharynx wall, and larynx
 - ▶ “yawn, laugh, sob”
 - ▶ importance of soft palate closing off nasal space during swallowing
 - ▶ For singing in particular - separates the nasal from the oral space
 - ▶ humming requires a lower soft palate to allow air through the nose
 - ▶ “Should I ‘lift’ my palate?”
 - ▶ range of aesthetic/acoustic choices based on singing style

EXERCISE:

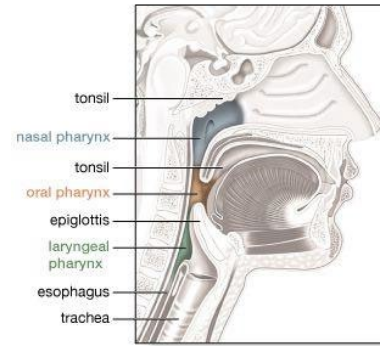
‘ng’ to [a]

- ▶ three- or five-note scale



THE PHARYNX

- ▶ review of three sections
 - ▶ Oropharynx
 - ▶ Nasopharynx
 - ▶ Laryngopharynx
- ▶ respiratory and digestive function; primary resonating chamber of the voice
 - ▶ Amplifies sound waves produced by VF
- ▶ three 'constrictor' muscles
- ▶ 'perceived control'



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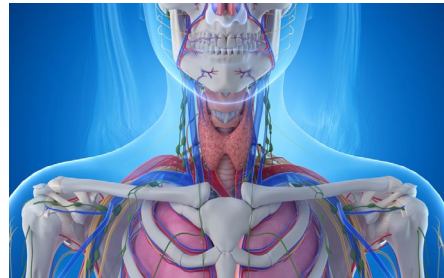
AN “OPEN” THROAT?

- ▶ neutral laryngeal position

“The pharynx is at its widest state when in a neutral position.” (Ragan, 160)

- ▶ brassy/’twang’ resonance = shortened vocal tract (“megaphone”)
- ▶ lofted resonance = lengthened vocal tract (“inverted megaphone”)

- ▶ EXTREMELY important not to mechanically elevate or depress larynx (negative effect on vocal production)



RESOURCES/CONCLUSION

McCoy, Scott. *Your Voice: An Inside View 3, Voice Science & Pedagogy*. Gahanna, OH: Inside View Press, 2019

McKinney, James. *The Diagnosis and Correction of Vocal Faults*. Long Grove, IL: Waveland Press, 2005.

Nair, Angelika. *The Tongue as a Gateway to Voice, Resonance, Style, and Intelligibility*. San Diego, CA: Plural Publishing, 2021.

Ragan, Kari. *A Systematic Approach to Voice: The Art of Studio Application*. San Diego, CA: Plural, 2020

THANK YOU, Emerald Choral Academy!!