

# Pediatric Gender Affirming Voice Therapy

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Gender Support Program



# GLOSSARY

- AFAB/PFAB
- Affirmed Gender
- Binary View of Gender
- Cisgender
- FTM (female to male), F2M, M2F, MTF (male to female)
- Gender Diverse
- Gender Fluid
- Gender Non-Conforming
- Misgendering
- Sex Assigned at Birth
- Transfeminine
- Transmasculine
- Gender Dysphoria



# Pediatric Gender Affirming Team

- Adolescent Medicine
- Endocrinology
- Psychology
- Psychiatry
- Speech Pathology
- Occupational Therapy



# SLP Roles and Responsibilities

## ASHA

SLPs play a central role in clinical services for gender affirming services. The professional roles and activities in speech-language pathology include clinical/educational services (differential diagnosis, assessment, planning, and treatment), prevention and advocacy, counseling, administration, and research. See *ASHA's [Scope of Practice in Speech-Language Pathology](#)*.

Appropriate roles for SLPs include, but are not limited to, the following



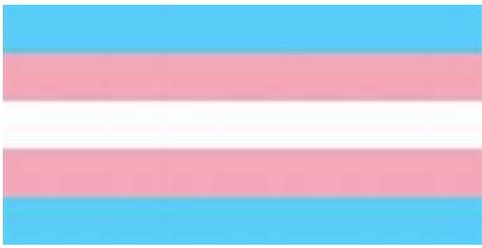
# SLP Roles

- Educating other professionals on gender affirmation services—and the role of SLPs
- Conducting a comprehensive, culturally and linguistically relevant assessment
- Referring to other professionals as needed
- Developing treatment plans, providing treatment, documenting progress, and determining appropriate dismissal criteria
- Providing education to promote vocal health and avoid vocal damage in pursuit of desired vocal changes as part of gender affirmation services,
- Remaining informed of research in gender affirmation services



# Roles and Responsibilities

- Remaining current with changes in terminology and other cultural considerations
- Serving as an integral member of an interdisciplinary team working with individuals who are transgender or gender diverse and their families/caregivers



# ASHA Ethics

As indicated in the [Code of Ethics](#) (ASHA, 2016), SLPs who serve this population should be specifically educated and appropriately trained to do so.

We should provide treatment services ***without discrimination.***



# Billing/Coding Considerations

- Diagnosis Code ICD-10
- Gender dysphoria F64.9
- Pt doesn't usually have a true Voice Disorder (Vocal Pathology)
- **92524** Behavioral and qualitative analysis of voice and resonance



## Assessment Statement

Pt presents with voice/communication style that is incongruent with their gender.



# DSM-5 Criteria for Gender Dysphoria

Marked incongruence between one's experienced/expressed gender and natal gender for least 6 months in duration, as manifested by at least two of the following:

- A strong desire for the primary and/or secondary sex characteristics of the other gender
- A strong desire to be of the other gender (or some alternative gender different from one's designated gender)
- A strong desire to be treated as the other gender (or some alternative gender different from one's designated gender)



# Considerations

Replace assumptions with questions, listen and adapt your use of language to your clients' wishes.

- Ask your clients and family their name and pronoun
- Do not assume a concrete gender identity, as this may be fluid
- Gender diverse individuals choose from a variety of pronouns that best express their gender identity
- If you are finding it difficult to use the correct pronoun consistently, please use name instead.
- Asks clients and family about pt name. Many have not legally changed name, but go by a name different than their birth name.
- These are often referred to as their “dead name”



# Avoid Using Stigmatizing Language

- Do not use words such as ‘disordered’ or ‘abnormal’
- When referring to individuals whose gender identity matches their birth assigned gender use ‘cisgender person’ and not ‘normal person’
- Try not to use the word “Passing”. Some people do not strive to pass as a member of the male or female gender.
- Puts a demand on clients that they must “pass”.



# Culturally Competent Treatment Space

- Make a safe space
- Educate staff members on terminology related to gender diverse
- Normalize the act of checking people's preferred genders (staff wearing pronoun badges)
- Verify with family and client that correct name is noted in paperwork and that staff uses this name (even if not legally changed)
- Provide gender neutral or non-gendered bathrooms
- Provide an easy and anonymous way for clients to provide feedback to clinic



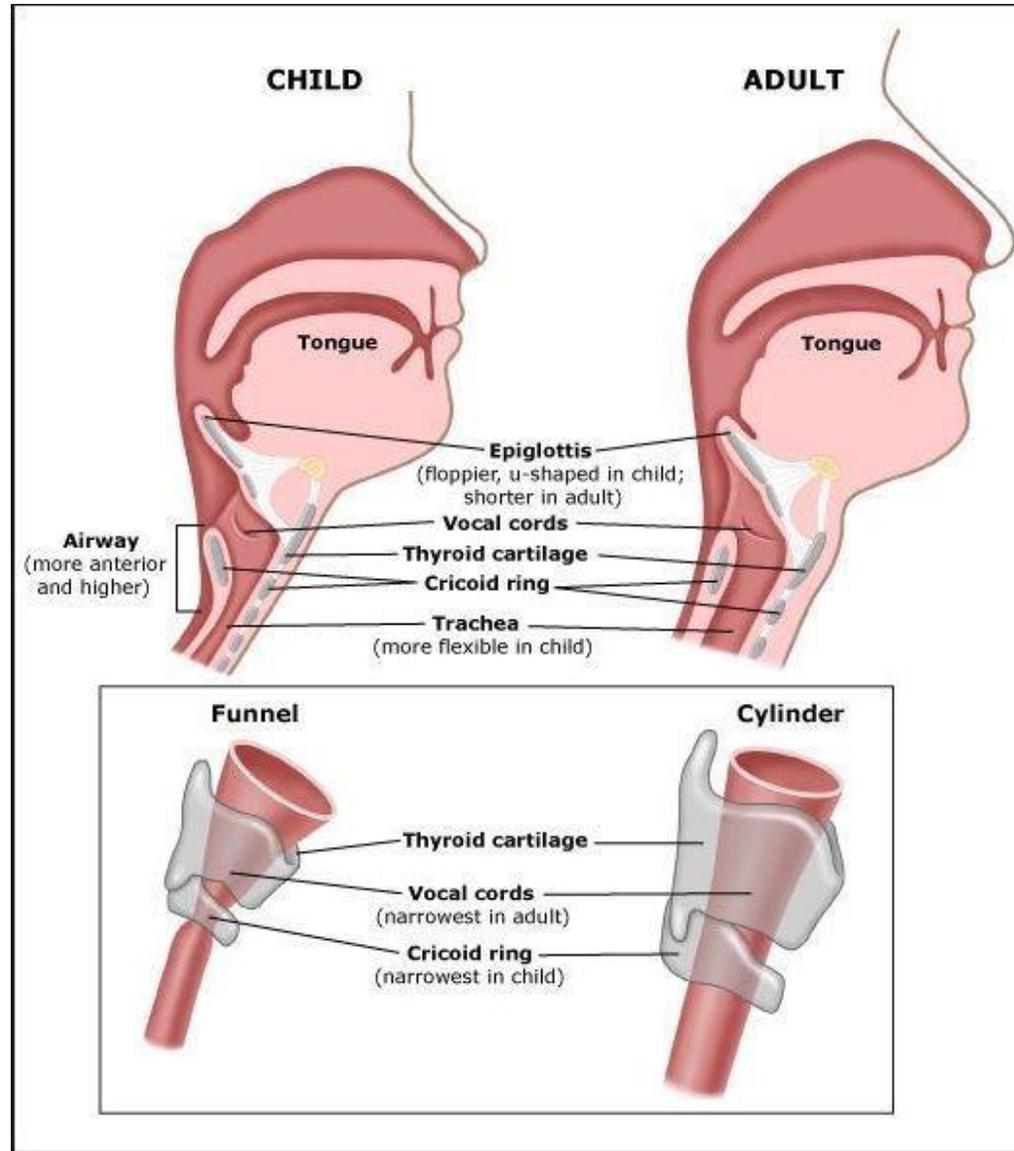
# Gender Diverse Persons Fear Harassment

According to *The Report of the 2015 U.S. Transgender Survey*  
(*USTS*; National Center for Transgender Equality [NCTE], 2016)

- 30% of transgender people had experienced workplace-based discrimination in the past year.
- 47% of respondents were verbally harassed
- 39% of respondents had experienced psychological distress (compared to 5% of the general US population)
- 41% of respondents had attempted suicide (compared to 1.6% of the general US population; NCTE, 2016)



# Anatomy





# Laryngeal changes during development



Infant



Toddler

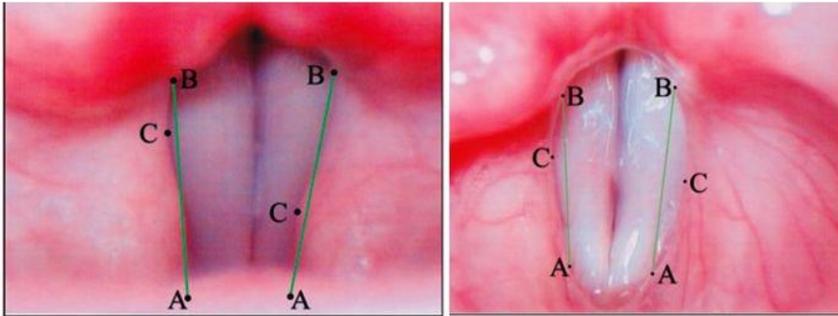


Adult



## Adult Gender Differences

- Male vocal folds: 17 mm and 25 mm (0.67" to 1.0") in length.
- Female vocal folds: 12.5 mm and 17.5 mm (0.5" to 0.7") in length.



**Figure 4.** Superior – Laryngeal telaryngoscopic image of male gender during emission of vowel /e/, normal voice, with sinusoid ves-  
tibular folds, right one Concave and left one Convex. Inferior – same image of points and reference arrows AB.

**3.** Superior – Laryngeal telaryngoscopic image of female gender during emission of vowel /e/ with minor stria sulcus and re vestibular fold. Inferior – same image of points and reference AB.

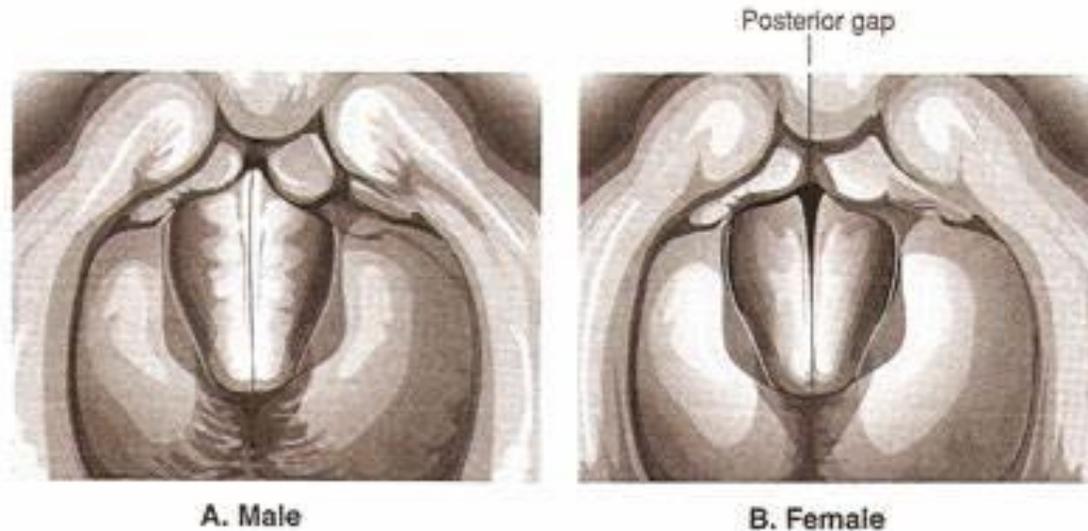
## Measurements

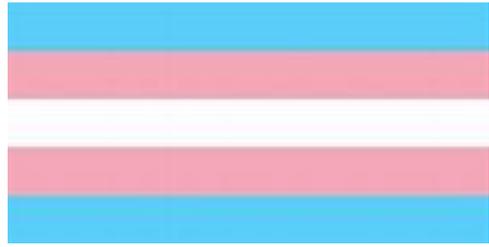
	In Males	In Females
Length	44 mm	36 mm
Transverse diameter	43 mm	41mm
A-P diameter	36 mm	26 mm
Circumference	136 mm	112 mm

- Until puberty there is little difference b/w male & female larynx.
- After puberty:- Male larynx undergoes considerable increase

# Difference between male and female vocal cords

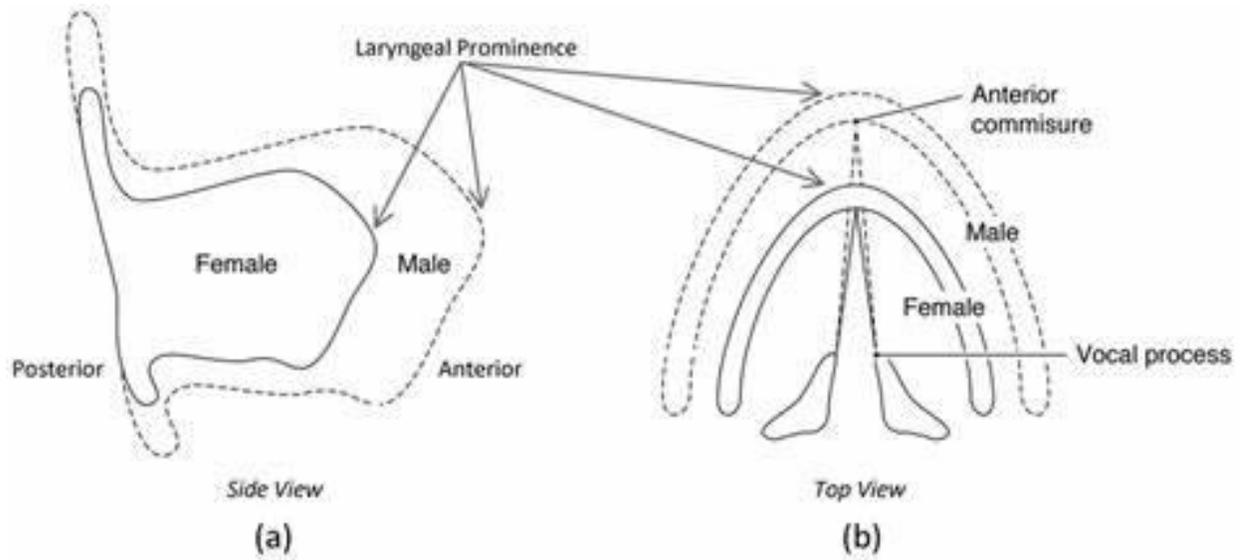
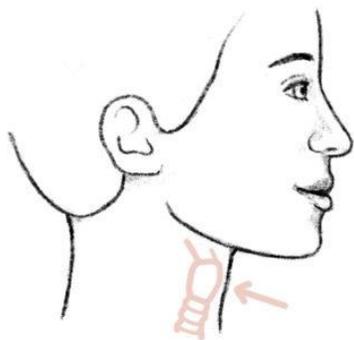
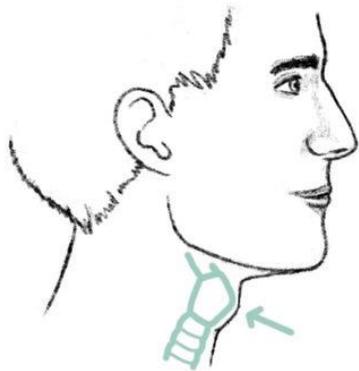
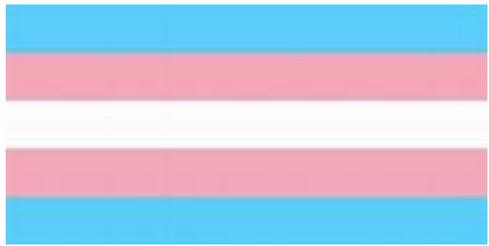
- Women have a larger gap at the back of their vocal cords, giving them a breathier voice
- Females have small vocal tracts and longer and thinner vocal cords. This gives their voices a naturally higher frequency.





Adam's apple also develops during male puberty







Speech Therapy  
during Gender  
Affirming  
Treatment





SKIN



MUSCLE



BREAST GROWTH



BODY FAT



HAIR GROWTH

# TIMELINE FOR EXPECTED PHYSICAL CHANGES ON ESTROGEN HRT



## WHAT HAPPENS

## COMPLETE EFFECT

Softening of skin & decreased oil

AVERAGE DOSE START

LOW DOSE START

Unknown

Depends on dose

Decreased muscle mass & strength\*

AVERAGE DOSE START

LOW DOSE START

2-3 years

Depends on dose

Breast tissue growth

AVERAGE DOSE START

LOW DOSE START

2-5 years

Depends on dose

Body fat redistribution

AVERAGE DOSE START

LOW DOSE START

1-2 years

Depends on dose

Thinning & slowed hair growth

AVERAGE DOSE START

LOW DOSE START

>3 years

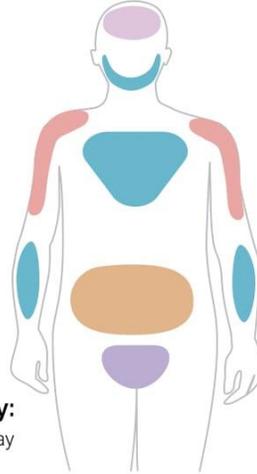
Depends on dose

\*depends significantly on amount of exercise



## EFFECTS AND EXPECTED TIME COURSE OF A REGIMEN CONSISTING OF TESTOSTERONE

**IRREVERSIBLE**  
 Scalp hair loss  
 Deepened voice  
 Facial and body hair growth  
 Clitoral enlargement

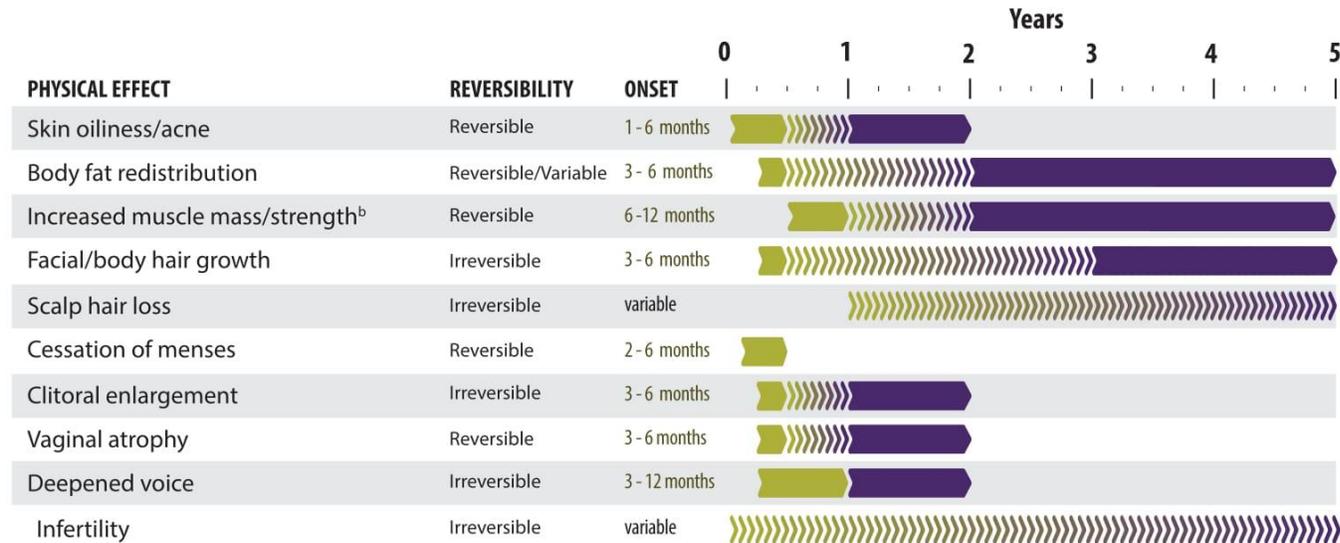


**REVERSIBLE**  
 Skin oiliness/acne  
 Increased muscle mass/strength  
 Vaginal atrophy

**VARIABLE**  
 Fat redistribution



**Use client's preferred terminology:**  
 Terminology such as "clitoral" and "vaginal" may be triggering to some but not all clients.



a) Estimates represent published and unpublished clinical observations  
 b) Significantly dependent on amount of exercise

Expected Onset<sup>a</sup> Expected Maximum Effect<sup>a</sup>



# Voice Characteristics that Differentiate Cisgender Male and Female Speakers

- Pitch
- Resonance
- Loudness
- Voice Quality
- Prosody (Intonation)

(Oates & Dacakis 1997)



# Assessment for Gender Affirming Voice Care

- Building Rapport/ Gender Diverse Case History
- TSEQ (Transgender Self-Evaluation Questionnaire)  
or VENI (Voice Related Experiences of Non-Binary Individuals)
- Maximum Phonation Time (MPT)
- S/Z Ratio
- Visi-Pitch Baseline Measures
  - Sustained Sounds
  - Reading Passage
  - Conversation
  - Pitch Range
- Explanation of Gender Affirming Voice Therapy



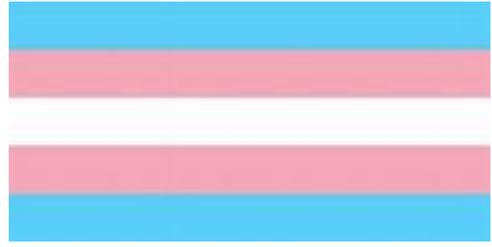
# Building Rapport

- Establish that this is a safe space
- Listen
- Ask client what they want out of therapy
- Offer support/resources



# Gender Diverse Case History

Case history that will specifically target information regarding transition journey, hormone use, current treatment, mental health status, etc.



# The Transgender Voice Evaluation Questionnaire (TSEQ)

- The TSEQ is a questionnaire filled out by patients at the initial evaluation that measures QOL based on three sections:
  - Physical
  - Emotional
  - Functional
- Patients answer questions based on a rating scale from 1 (never) to 5 (always). A score is given for each of the subsections, as well as a total for all 3 sections together.

## **RATING SCALE**

1 = never

2 = almost never

3 = sometimes

4 = almost always

5 = always



# TSEQ Continued: Examples

- Physical:
  - "I have to strain my voice to make it sound like I want to."
  - "When I laugh, cough or sneeze, I sounds like a man (MTF) / woman (FTM)."
- Emotional:
  - "I don't feel my voice reflects the 'true me'."
  - "I am less outgoing because of my voice."
- Functional:
  - "My voice difficulties restrict my personal and social life."
  - "I feel my voice doesn't match my physical appearance."



# VOICE MEASUREMENTS

- Maximum Phonation Time (MPT)
  - Document how long pt can hold out sustained vowel
  - Ensure breath support is adequate to safely participate in therapy
- S/Z Ratio
  - Ensure there are no concerns regarding vocal pathology





# Visi-Pitch Measures

## Baseline Measurements:

- Ask client to produce sound in “comfortable” pitch:
- Sustained Vowels (/a/, /i/, /u/)
- Pitch range using pitch glides (high to low, low to high)
- F0 Reading Passage (ie: Rainbow Passage)
- F0 Connected Speech

Sample	Minimum Hz	Maximum Hz	Average Hz
Sustained /a/			
Sustained /i/			
Sustained /u/			
Reading Rainbow Passage			
Conversation			

Equivalent Semitones	
Pitch Range Hz	



# Visi-Pitch Measures

Average male F0 = 100-145 Hz

Gender neutral F0 = 145-175 Hz

Average female F0 = 175-250 Hz



# Gender Affirming Therapy





# Why provide female to male therapy if patient is on Testosterone?

“While self-perception of voice improves for many transmasculine people, satisfaction levels with vocal changes with testosterone alone are suboptimal,” (Davies et al).

- Voice care during vocal fold changes
- Effects of binding on resonance
- Optimizing breath support regarding vocal mass changes
- Chest resonance development
- Voice projection
- Body language/gesture use



Vocal Hygiene



Pitch



Resonance



Intonation



Articulation



Body Language



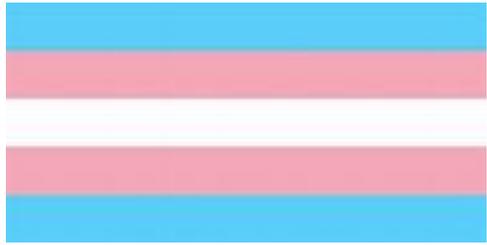
Social Pragmatics



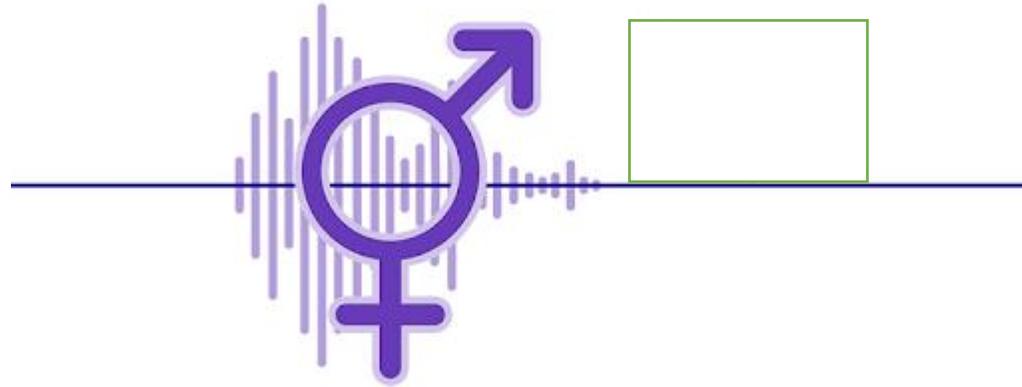
# Vocal Hygiene

- Habits
  - Allergies
  - Reflux Symptoms
  - Water Intake
  - Caffeine Intake
  - Alcohol
  - Smoking
- Voice Use
  - Frequency of use professionally/school/hobbies
  - Frequency of use recreationally



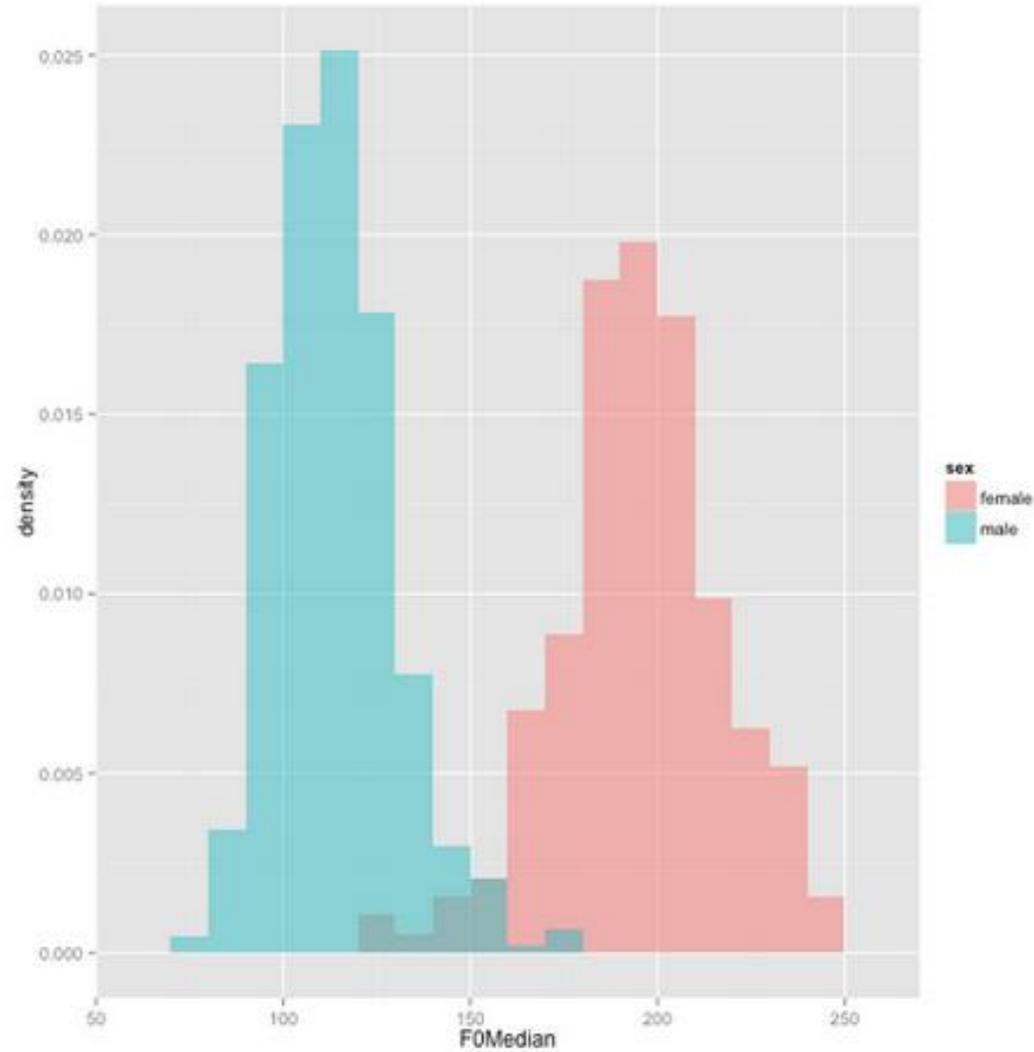


Pitch



The relative highness or lowness of a tone as perceived by the ear, which depends on the number of vibrations per second produced by the vocal cords

# Gender Neutral Pitch Range 145Hz-175Hz







# Voice Modification Apps



Voice Tools



EvaF



EvaM



# Resonance

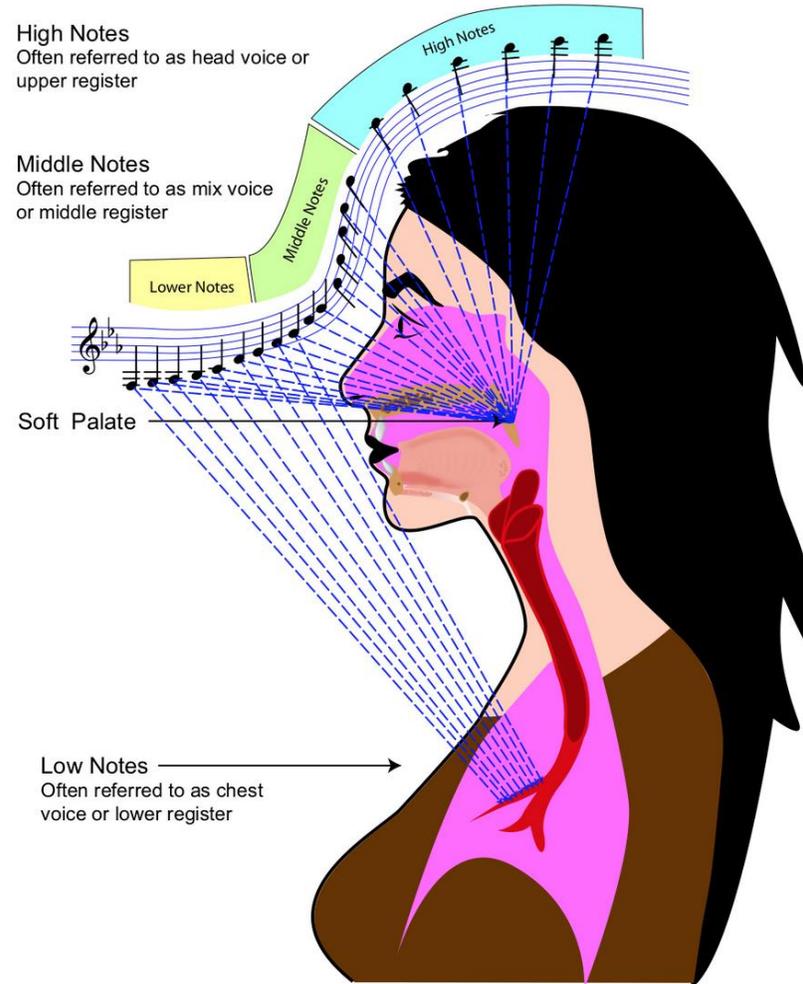
Resonance is the quality of the voice that results from sound vibrations in the pharynx (throat), oral cavity (mouth) and nasal cavity (nose). The balance of sound vibration in these areas determines the quality of speech and voice.

## RESONANCE SENSATION

**High Notes**  
Often referred to as head voice or upper register

**Middle Notes**  
Often referred to as mix voice or middle register

**Low Notes**  
Often referred to as chest voice or lower register



For more information about how your voice works please visit [www.singlikeastar.com](http://www.singlikeastar.com)

## Forward Focus Resonance:

More forward/nasal  
vibration/energy

Generally perceived as more  
female trait in voice

Talk to a baby/pet



## Chest Resonance:

More chest vibration/energy

Generally perceived as more male  
trait in voice

Rumble in your  
ribcage





# Resonance

- Table Top Technique
- Begin with nasals /mmm/
- Move to syllables, words, sentences, conversation



# Intonation

- Speakers perceived as more **female**:
  - “Lively” intonation pattern
  - More use of inflection
- Speakers perceived as more **male**:
  - More monotone voice
  - Less inflection



# Intonation

Males will usually speak in full pitch, with little rise and fall-- More monotone. Usually with a little more volume than females.

**Males tend to increase volume to use emphasis.**

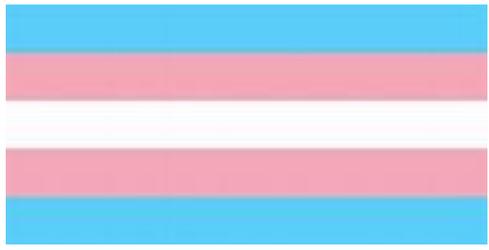
Females are much more likely to vary their pitch when they talk, which results in varied intonation. Females tend to raise pitch at the end of sentences, even when they are not asking a question.

**Females tend to use pitch variation to exhibit emphasis.**



# Articulation

- Female speakers produce more precise articulatory movements than males. Males tend to mumble more (less precise targets).
- Male speakers tend to make harder articulator contacts whereas females articulate in a lighter manner.
- Male speakers are also more likely to drop the ends of words more than female speakers.





# Non-Verbal Language



www.seznamics.com





## Body Language in Females

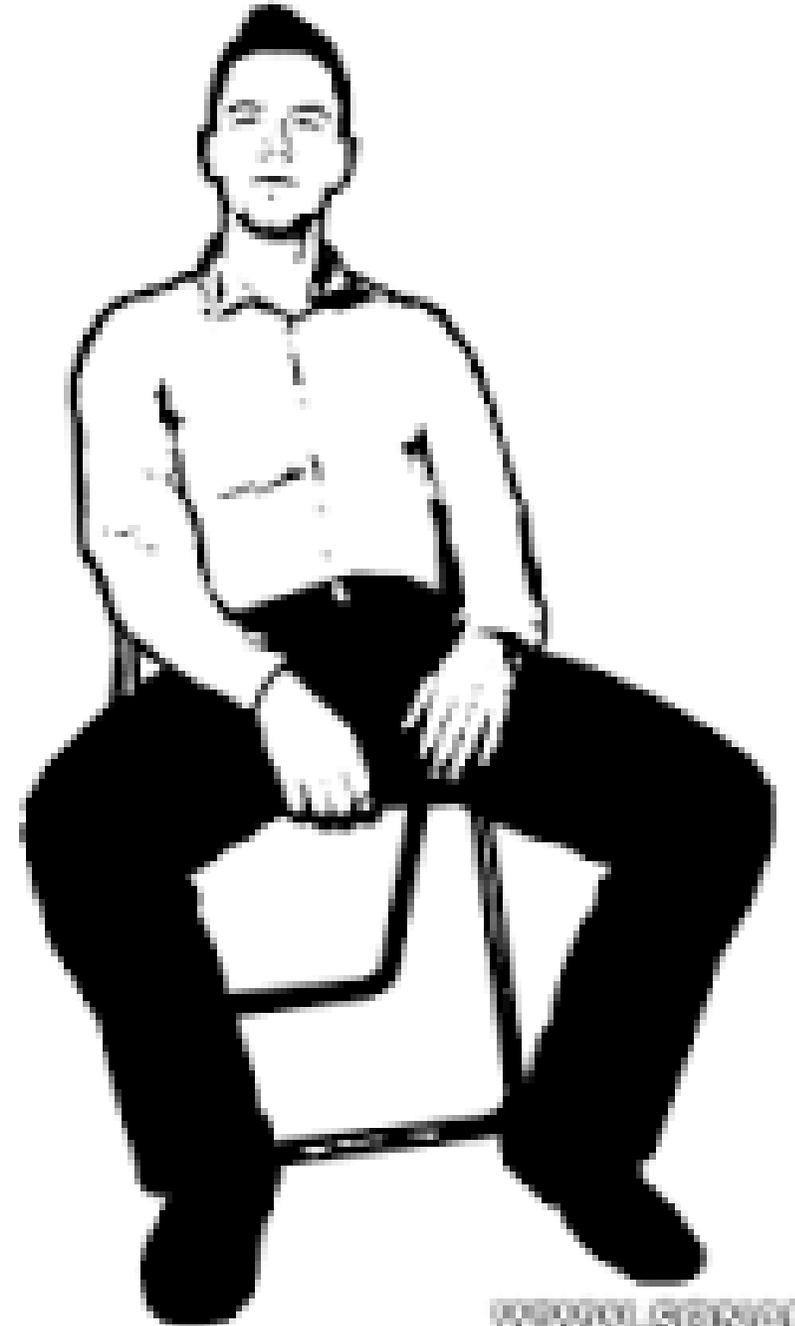


- Females tend to smile and laugh more than males and they have more expressive faces.
- Females “talk with their hands”
- Females keep a closer interpersonal distance to their communication partners than males
- Females tend to nod more frequently



## Body Language in Males

- Males tend to display more restlessness, fidgeting, manipulation of objects, and backward leaning in interactions than females.
- Men also have a more expansive posture, including wider knees, open body posture, and outwardly expressive gestures.





# Body Language And Nonverbal Communication Practice

- Tell me about your favorite movie.
- Tell me about your favorite restaurant.
- What was the best vacation you've ever had?
- What were you like as a child?
- Tell me your funniest memory.
- What did you do last weekend?
- What do you like to do in your free time?
- Who do you admire most and why?



## Nonverbal Rating Sheet

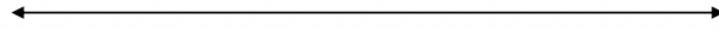
Circle the number along the continuum that best describes the observed nonverbal behaviors.

Very Masculine

Very Feminine

Minimal Eye Contact

Consistent Eye Contact



1

2

3

4

5

Very limited smiling.

Consistent Smiling



1

2

3

4

5

No gestures, or gestures focused towards partner

Gestures used frequently and toward self



1

2

3

4

5

Minimal gazing at partner

Consistent gazing at partner



1

2

3

4

5

Legs spread, arms taking up space, leaning back

Legs crossed, arms brought in and taking up very little space, upright posture



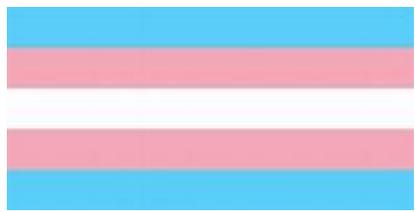
1

2

3

4

5



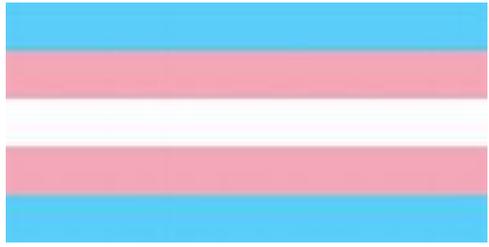
# General Language Differences

PERCEIVED FEMENINE	PERCEIVED MASCULINE
Tend to communicate to express feelings and achieve emotional intimacy	Tend to communicate to transmit information and solve specific problems
Are usually equally as comfortable side-by-side with partner and face-to-face	Tend to prefer face-to-face communication
More tolerant of close body proximity	More likely to perceive close proximity as a sign of aggression or confrontation
Tend to use more non-verbal communication	
Tend to add more tag questions to the end of their statements (“He isn’t a very good actor, <i>is he?</i> ”)	
Tend to use more eye contact	



# Social Pragmatics





# Gender Diversity and Neurodiversity

641,860 subjects



- People who do not identify with the sex they were assigned at birth are **three to six times as likely to be autistic as cisgender people are**, according to the largest study yet to examine the connection<sup>1</sup>. Gender-diverse people are also more likely to report autism traits and to suspect they have undiagnosed autism.
- About 30,000, or **5 percent, of the cisgender people in the study have autism**, the researchers found, whereas 895, or **24 percent, of the gender-diverse people do**.
- Gender-diverse people also report, on average, more traits associated with autism, such as sensory difficulties, pattern-recognition skills and lower rates of empathy — or accurately understanding and responding to another person's emotional state.

**Largest study to date confirms overlap between autism and gender diversity**

BY [LAURA DATTARO](#) / 14 SEPTEMBER 2020

Spectrum Magazine



## Establishing Goals—Fluid Process

- Always check in with client about how they would like to express themselves
- Reassure them that this is a fluid process, and goals may change
- Probe for information regarding situations that they will speak/won't speak—Where they feel comfortable experimenting with voice techniques



# Goals

## Vocal Hygiene



- Pt will identify 3 healthy vocal hygiene practices during structured therapy sessions 90% accuracy.
- Pt will report (verbally or in writing) on the use of healthy vocal hygiene practices outside of treatment session in 8/10 opportunities.



# Goals

## Pitch



- Pt will maintain an average fundamental frequency in the feminine range (above 175Hz), using safe pitch modification strategies, at the sentence level 8/10 opportunities.
- Pt will maintain an average fundamental frequency in the masculine range (below 145Hz), using safe pitch modification strategies, at the sentence level 8/10 opportunities.



# Goals

## Resonance



- Pt will demonstrate the use of forward focus resonance at the sentence level in 8/10 opportunities.
- Pt will demonstrate the use of chest resonance at the sentence level in 8/10 opportunities.



# Goals

## Intonation



- Pt will demonstrate use of varied intonation patterns during speech at the sentence level in 8/10 opportunities.
- Pt will demonstrate a decrease in pitch intonation patterns during speech at the sentence level in 8/10 opportunities.



# Goals

## Articulation



- Pt will demonstrate precise articulation patterns at the sentence level in 8/10 opportunities.
- Pt will demonstrate decreased precision in articulation patterns at the sentence level in 8/10 opportunities.



# Goals

## Body Language

- Pt will demonstrate 2 aspects of feminine body language during conversation in 4/5 opportunities.
- Pt will demonstrate 2 aspects of masculine body language during conversation in 4/5 opportunities.



## Example Goal for Non-Binary Patient

Pt request: “I want my voice to be a little bit deeper in pitch with a smoother tone and clearer quality.”

- Pt will achieve a mean fundamental frequency of 140–165Hz with minimal perceptual vocal fry in a passage-reading task lasting one minute.



## Conclusion:

- As society becomes more accepting of transgender individuals, our caseloads are likely to include more transgender patients seeking communication therapy.
- There are a number of critical considerations to be aware of when working with a transgender patient.
- The conscientious therapist will take these considerations into account when planning and implementing therapy with the transgender patient.



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