Gender Affirming Voice Care: A Holistic Approach

Joy Musser, Ph.D. CCC-SLP
Musser Voice
Disclosures

- **Financial Disclosure**
  - Joy Musser is adjunct faculty at Nazareth College and Purdue University Fort Wayne, and the owner/founder of Musser Voice, a division of Musser Therapies, LLC
  - She also receives a NSSHLA Honorarium for this presentation

- **Non-financial Disclosure**
  - No relevant non-financial relationships exist
Agenda

- Terminology
- Holistic Evaluation
- Q&A
- Lunch!
- Client Centered Treatment
- Mythbusters
- Q&A
# Learning Objectives

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Describe culturally competent language for transgender and gender diverse populations.</td>
</tr>
<tr>
<td>2</td>
<td>Describe areas of voice and communication that can be developed to match gender identity and expression.</td>
</tr>
<tr>
<td>3</td>
<td>Identify evaluation and treatment protocols to be used with transgender and gender diverse persons seeking to modify voice and communication.</td>
</tr>
</tbody>
</table>
# Terminology

<table>
<thead>
<tr>
<th>Sex</th>
<th>Sexual Orientation</th>
<th>Gender Identity</th>
<th>Gender Expression</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Biological</td>
<td>• Who a person is attracted to romantically, emotionally, and/or physically</td>
<td>• A person’s internal sense of self</td>
<td>• How a person chooses to show their gender (hair, makeup, clothing, etc.)</td>
</tr>
<tr>
<td>• Genitalia, chromosomes, hormones</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Terminology

- Cisgender: Gender identity corresponds to sex assigned at birth
- Transgender: Gender identity does not correspond with sex assigned at birth
The Genderbread Person

by www.ItsPronouncedMetrosexual.com

Gender Identity
- Woman
- Genderqueer
- Man

Gender identity is how you, in your head, think about yourself. It’s the chemistry that composes you (e.g., hormonal levels) and how you interpret what that means.

Gender Expression
- Feminine
- Androgynous
- Masculine

Gender expression is how you demonstrate your gender (based on traditional gender roles) through the ways you act, dress, behave, and interact.

Biological Sex
- Female
- Intersex
- Male

Biological sex refers to the objectively measurable organs, hormones, and chromosomes. Female = vagina, ovaries, XX chromosomes; male = penis, testes, XY chromosomes; intersex = a combination of the two.

Sexual Orientation
- Heterosexual
- Bisexual
- Homosexual

Sexual orientation is who you are physically, spiritually, and emotionally attracted to, based on their sex/gender in relation to your own.

https://www.samkillermann.com/work/genderbread-person/
## Terminology

<table>
<thead>
<tr>
<th>Terms to Avoid</th>
<th>Best Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Born a man</td>
<td>Transgender, trans, a transgender person, transgender people</td>
</tr>
<tr>
<td>Born a woman</td>
<td></td>
</tr>
<tr>
<td>Biologically male</td>
<td></td>
</tr>
<tr>
<td>Biologically female</td>
<td></td>
</tr>
<tr>
<td>Genetically male</td>
<td></td>
</tr>
<tr>
<td>Genetically female</td>
<td></td>
</tr>
<tr>
<td>Transgenders</td>
<td></td>
</tr>
<tr>
<td>A transgender</td>
<td></td>
</tr>
<tr>
<td>Identifies as</td>
<td></td>
</tr>
</tbody>
</table>

https://www.glaad.org/reference/trans-terms
Terminology

### Offensive

<table>
<thead>
<tr>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tranny</td>
</tr>
<tr>
<td>She-male</td>
</tr>
<tr>
<td>He/she</td>
</tr>
<tr>
<td>Shim</td>
</tr>
<tr>
<td>Real man/woman</td>
</tr>
</tbody>
</table>
Words Matter
“Being Trans”
Evaluation
Communication

- Assess all aspects
- Address as needed
Evaluation Form

Acoustic Analysis
- Frequency (Hz)
- Variability

Conversational Analysis
- Voice/Speech analysis
- Language analysis
- Non Verbal Behaviors analysis

Perceptual Evaluation

Impressions

Recommendations

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Voice & Speech Analysis
Acoustic Analysis
Pitch

Open, breathing

Closed, voicing
Video: Vocal Fold Vibration
Vocal Tract

Female Vocal Tract

Male Vocal Tract

http://beyondthefourthfloorblog.com/2015/12/07/makes-men-women-sound-different-part-two/
# Average Pitch Ranges

<table>
<thead>
<tr>
<th>Voice Type</th>
<th>Average Pitch (Hz)</th>
<th>Range (Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masculine</td>
<td>110</td>
<td>85-174</td>
</tr>
<tr>
<td>Ambiguous</td>
<td>*165</td>
<td>155-187</td>
</tr>
<tr>
<td>Feminine</td>
<td>220</td>
<td>171-275</td>
</tr>
</tbody>
</table>
## Average Pitch Ranges

<table>
<thead>
<tr>
<th>OCTAVE</th>
<th>NOTE</th>
<th>FREQUENCY (Hz)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C2</td>
<td>C</td>
<td>65.41</td>
</tr>
<tr>
<td></td>
<td>C#</td>
<td>69.3</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>73.42</td>
</tr>
<tr>
<td></td>
<td>D#</td>
<td>77.78</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>82.41</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>87.31</td>
</tr>
<tr>
<td></td>
<td>F#</td>
<td>92.5</td>
</tr>
<tr>
<td></td>
<td>G</td>
<td>98.</td>
</tr>
<tr>
<td></td>
<td>G#</td>
<td>103.83</td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>110</td>
</tr>
<tr>
<td></td>
<td>A#</td>
<td>116.54</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>123.47</td>
</tr>
<tr>
<td>C3</td>
<td>C</td>
<td>130.81</td>
</tr>
<tr>
<td></td>
<td>C#</td>
<td>138.59</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>146.83</td>
</tr>
<tr>
<td></td>
<td>D#</td>
<td>155.56</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>164.81</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>174.61</td>
</tr>
<tr>
<td></td>
<td>F#</td>
<td>185</td>
</tr>
<tr>
<td></td>
<td>G</td>
<td>196</td>
</tr>
<tr>
<td></td>
<td>G#</td>
<td>207.65</td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>220</td>
</tr>
<tr>
<td></td>
<td>A#</td>
<td>233.08</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>246.94</td>
</tr>
<tr>
<td>C4 (MIDDLE)</td>
<td>C</td>
<td>261.63</td>
</tr>
<tr>
<td></td>
<td>C#</td>
<td>277.18</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>293.66</td>
</tr>
<tr>
<td></td>
<td>D#</td>
<td>311.13</td>
</tr>
</tbody>
</table>
Pitch Variability

Masculine

Sure, that would be fine.

Feminine

Sure, that would be fine.
Intonation & Perceived Gender

- Intonation patterns
- Convey meaning
- Convey attitudes, feelings
- Research Hancock et al. (2014)

This seat is yours
That was a great game
Feminine Pitch Variability

- Rising inflection
  - Maybe we’ll go to the movies tomorrow
  - This is really good, don’t you think
  - It might be a tad bit too spicy

- Intrasyllable inflection
  - Well
  - Hi
  - It’s fine
Feminine Pitch Variability

- Inflections across phrases
  - *I don’t know*
  - *Let’s go there*
  - *I love to travel*
Assessment

- Pitch
- Pitch Variability
Acoustic Analysis

- Voice/Speech Tasks
  - Sustained vowel
  - Counting
  - Rainbow Passage
  - Min/max pitch glides
  - Maximum phonation times

- Vocal Profiles
- Software
WASP
Waveform, Annotations, Spectogram, Pitch

- Program for recording, display, and analysis of speech
  - Full version download: https://www.phon.ucl.ac.uk/resource/sfs/wasp/
  - Web-based version: https://www.speechandhearing.net/laboratory/wasp/
- .wav files
Vocal Profiles

- Just ask!
Examples
“old voice”
“girl voice”
Vocal Profiles
VOICE EVALUATION

ACOUSTIC ANALYSIS
Using Waveform, Spectrogram, and Pitch (WASP) Analysis

Assessment Tasks

HABITUAL PITCH (FUNDAMENTAL FREQUENCY DURING COUNTING)

<table>
<thead>
<tr>
<th>Trial</th>
<th>Mean</th>
<th>Median</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - &quot;Current voice&quot;</td>
<td>119 Hz</td>
<td>125 Hz</td>
<td>21 Hz</td>
</tr>
<tr>
<td>2 - &quot;Old voice&quot;</td>
<td>95 Hz</td>
<td>93 Hz</td>
<td>14 Hz</td>
</tr>
</tbody>
</table>
CONVERSATIONAL ANALYSIS

Voice/Speech Analysis

Articulation:
☐ precise ☐ soft contacts ☐ imprecise ☐ hard contacts ☐ other

Pitch Variability:
☐ feminine intonation/inflection patterns (increased vocal variety)
☐ masculine intonation patterns (reduced vocal variety)

Loudness Variability:
☐ appropriate ☐ inappropriate ☐ fading at ends of sentences ☐ other

Glottal fry:
☐ frequent ☐ occasional ☐ never ☐ other

Focus of Tone:
☐ front ☐ back ☐ other

Respiration:
☐ clavicular ☐ thoracic ☐ diaphragmatic ☐ supported ☐ unsupported ☐ other

Visible Tension:
☐ present ☐ absent ☐ other
Pitch:
- □ too high  □ too low  □ appropriate for gender presentation
- □ falsetto  □ other

Loudness:
- □ too loud  □ too soft  □ appropriate for gender presentation
- □ other

Quality:
- □ breathy  □ harsh  □ hoarse  □ appropriate  □ other

Onset:
- □ breathy  □ hard  □ appropriate  □ other

Resonance:
- □ normal  □ hypernasal  □ hyponasal  □ nasal emission  □ other

Speaking Rate:
- □ normal  □ too fast  □ too slow  □ other

Other:
[Blank Line]
Rate

- Speaking tempo
- Pauses

*There are so many differences between the speech and language of men and women.*
Easy Onset

- Beginning Sounds
  - Smooth initiation
  - Slight breathy release

Amy ate an apple vs. Hal had a hamburger
Articulation

- Precision
- Stress
- Consonants
- Smiling
- Lip Rounding
- Vowels
- Articulation
Speech Precision

- Use more correct/standard speech production
  - *Running vs. runnin*
  - *Don’t vs. don*
  - *Ain’t*

- “Lighter” articulation
  - *What did the fox say?*
Word Stress

- Modify length
- Intrasyllabic inflection
  - *I want to go*

*I want to Go* (masculine) *vs.* *I want to gooo* (feminine)
Vowel Elongation

- Longer in duration
- “Legato”
- Helps slow rate
- Intrasyllabic inflection

- I don’t know.
- Why? I thought she was coming.
- Aww, your puppy is adorable.
Consonant Production

- “Back” sounds /k, g, ng/
- “Forward” sounds
- Examples

<table>
<thead>
<tr>
<th>Consonant</th>
<th>+ back vowel</th>
<th>+ front vowel</th>
</tr>
</thead>
<tbody>
<tr>
<td>/k/</td>
<td>cool</td>
<td>key</td>
</tr>
<tr>
<td>/g/</td>
<td>go</td>
<td>get</td>
</tr>
<tr>
<td>/ng/</td>
<td>rung</td>
<td>rang</td>
</tr>
</tbody>
</table>
Lip Rounding & Smiling

- Smile more!
- Reduced lip rounding
Language Analysis

- elaborations
- exaggerations
- claiming common ground
- feminine vocabulary
- hedges
- hypercorrect/bookish grammar
- increased use of adjectives/adverbs
Vocabulary

Adjectives & Adverbs

Psychological verbs

Softening Modifiers

Qualifiers

Tag Questions

Elaborations & Exaggerations

Lakoff (1973)
Adjectives & Adverbs

- Detailed adjectives & nouns
  - Colors
  - Senses - Taste
- “Empty” adjectives
- Expletives
- Intensifying Adverbs
### Examples

<table>
<thead>
<tr>
<th>Detailed Adjectives</th>
<th>“Empty” Adjectives</th>
<th>Intensifying Adverbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petal pink</td>
<td>Adorable</td>
<td>Very</td>
</tr>
<tr>
<td>Moss green</td>
<td>Gorgeous</td>
<td>Really</td>
</tr>
<tr>
<td>Lavender</td>
<td>Precious</td>
<td>So</td>
</tr>
<tr>
<td>Tangy</td>
<td>Cute</td>
<td>Extremely</td>
</tr>
<tr>
<td>Citrus-y</td>
<td>Divine</td>
<td>Absolutely</td>
</tr>
</tbody>
</table>
Psychological Verbs

- I wish
- I believe
- I feel
- I think
Male to Female Transgender Vocabulary Suggestions

The study of female language characteristics reveals an increased use (as compared to male language) of the following word usage and vocabulary:

Psychological Verbs
- I wish
- I believe
- I feel
- I think

Softening Modifiers
- I may want
- I suppose
- I think I should

“Empty” Adjectives
- Divine
- Lovely
- Precious
- Cute

Detailed adjectives and nouns in traditional areas of female interest
- Specific color labels (beige, petal pink, lavender, moss green, aqua, etc.)

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Softening Modifiers

- I may want
- I suppose
- I think I should
- Would you mind...?
- Would it be ok if...?
Qualifiers

- Rather
- Somewhat
- Completely
- Tiny bit
- I feel like
- It’s pretty late
Tag Questions

- She’s very bright, *isn’t she?*
- It’s a bit boring, *don’t you think?*
- You’re Kelly, *aren’t you?*
- They were here last week, *weren’t they?*
<table>
<thead>
<tr>
<th>Language Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>hypercorrect/bookish grammar</td>
</tr>
<tr>
<td>increased use of adjectives/adverbs</td>
</tr>
<tr>
<td>indirect communicative strategies</td>
</tr>
<tr>
<td>questions</td>
</tr>
<tr>
<td>seek agreement</td>
</tr>
<tr>
<td>superpolite forms</td>
</tr>
<tr>
<td>tag questions</td>
</tr>
</tbody>
</table>
Claiming Common Ground & Seeking Agreement

- Relationship oriented
- Process externally
- Lead by Consensus
Super Polite Forms

▶ “Politeness Principle” Lakoff (1973)
  ▶ Don’t impose
  ▶ Give the receiver options
  ▶ Make the receiver feel good

▶ Examples
  ▶ Would you mind...
  ▶ If it’s not too much to ask...
  ▶ Is it ok if...
  ▶ May I...
Indirect Communication

- Indirect requests
- Apologies
- Polite excuses or evasions
- Explain then request
Hedges

- I wondered if I may have a word with you?
- The answer could be that...
- Maybe we should talk about it later.
- This is possibly the best...
- It’s sort of hard to explain.
Language Summary

- Claiming Common Ground
- Seeking Agreement
- Super Polite Forms
- Indirect Communication
- Hedges
Nonverbal Communication

Facial Expression

Video
Facial Expression
Adler et al. (2018)

Cis males
- Less skilled at interpreting & use far fewer facial expressions in conversation
- Smile less

Cis females
- More skilled at sending & interpreting facial expression
- Use more facial expressions
- Smile more
Facial Expression
Adler et al. (2018)

Cis males
- Expression remains reserved or "masked"
- Provide less feedback or reaction through facial expression

Cis females
- Expressions are more welcoming, friendly, warmer
- Provide more feedback through facial expression
Oculesics

- The study of nonverbal communication as it relates to the eyes, brows, eye movement, gaze, and eye contact behaviors
Facial Expression: Eye Contact

Cis males
- Used to establish dominance in communication exchanges
- Use less eye contact during conversation

Cis females
- Used to “check in” or as a sign of submission
- Use more eye contact during conversation
Facial Expression: Eye Contact

Cis males
- Less comfortable giving eye contact

Cis females
- More comfortable giving eye contact, but will frequently break it
Facial Expression: Eyebrow Movement
Nonverbal Communication

Haptics & Proxemics

Adler et al. (2018)
Haptics

- Touching behaviors
- When
- Where
Touch

- Warmth & Expression
  - Sympathy
  - Acceptance
  - To make a point
  - For humor
Touch

Cis males
- Use touch to
  - Direct
  - Assert power
  - Express sexual interest

Cis females
- Initiate more hugging, touching
  - Support
  - Affection
  - Comfort
Touch

- Hand to
  - Elbow
  - Hand
  - Shoulder
  - Leg
  - Face
Proxemics

- Distance between people during communication
- “Personal space”
Feminine Proxemics

- Approach others more slowly
- Prefer side-by-side
- Friends
  - Lean against each other while talking
  - Walk arm in arm
  - Don’t shy away from closeness
Nonverbal Communication

Movement

- Head
- Arms
- Trunk
- Legs/feet
- Hands/fingers
- Hips
- Gait
Head Movements

Cis males
- Move less
- Static head position

Cis females
- Move more
- Mirror movement
- Nod
Trunk Movements

Cis males
- Lean back

Cis females
- Lean in during conversation
Cis males
- Larger space between arms & body

Cis females
- Stay close to body
Hands & Fingers

Cis males
- Linear
- Closed fingers

Cis females
- Expressive, fluid
- Open fingers
- Curved motions
Hip Movements

Cis males
- Linear movement

Cis females
- Swinging, undulating motion
Gait: Cis males
Gait: Cis females
Legs & Feet

- Cis males
  - Tap, wiggle feet

- Cis females
  - Expressive movement, especially while seated
    - Figure 8 pattern
### Nonverbal Behaviors Analysis

**Available options:** never / occasional / frequent / appropriate

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eye Contact:</strong></td>
<td>never / occasional / frequent</td>
</tr>
<tr>
<td></td>
<td>/ appropriate / other</td>
</tr>
<tr>
<td><strong>Facial Expressions:</strong></td>
<td>never / occasional / frequent</td>
</tr>
<tr>
<td></td>
<td>/ appropriate / other</td>
</tr>
<tr>
<td><strong>Feminine Head/Body Movements:</strong></td>
<td>never / occasional / frequent</td>
</tr>
<tr>
<td></td>
<td>/ appropriate / other</td>
</tr>
<tr>
<td><strong>Inclining Toward Partner:</strong></td>
<td>never / occasional / frequent</td>
</tr>
<tr>
<td></td>
<td>/ appropriate / other</td>
</tr>
<tr>
<td><strong>Increased Nodding:</strong></td>
<td>never / occasional / frequent</td>
</tr>
<tr>
<td></td>
<td>/ appropriate / other</td>
</tr>
<tr>
<td><strong>Face-to-face Interactions:</strong></td>
<td>never / occasional / frequent</td>
</tr>
<tr>
<td></td>
<td>/ appropriate / other</td>
</tr>
<tr>
<td><strong>Feminine Posture:</strong></td>
<td>never / occasional / frequent</td>
</tr>
<tr>
<td></td>
<td>/ appropriate / other</td>
</tr>
<tr>
<td><strong>Hand Gestures:</strong></td>
<td>never / occasional / frequent</td>
</tr>
<tr>
<td></td>
<td>/ appropriate / other</td>
</tr>
<tr>
<td><strong>Increased Smiling:</strong></td>
<td>never / occasional / frequent</td>
</tr>
<tr>
<td></td>
<td>/ appropriate / other</td>
</tr>
<tr>
<td><strong>Touching:</strong></td>
<td>never / occasional / frequent</td>
</tr>
<tr>
<td></td>
<td>/ appropriate / other</td>
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</tbody>
</table>

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Adler et al. (2018)
Andrews (1999)