

These notes are compiled from Kaiser Permanente Washington (GHC)'s visit notes and from the College of Saint Rose. They are typeset again here so that they could more accessible.

1 Bootstrapping

1.1 **Vocal hygiene:** Make sure you are:

- Drinking plenty of water.
- Using adequate breath support through **diaphragmatic breathing**.
- Avoiding vocal strain, particularly when speaking loudly.
- Keeping a journal or have a handy tool to record your progress.

1.2 **Pitch:** Identify the voice frequency (pitch) that you will be attempting to maintain.

Reference for frequency ranges:

- Masculine: 85Hz to 180Hz
- Gender neutral: 140Hz to 170Hz
- Feminine: 165Hz to 255Hz

In the beginning, it would be helpful to start at somewhere in the gender neutral range, and slowly increase the baseline going forward. Use an app like Voice Tools or a tuner to identify a note (e.g., F3) that you can reference later.

2 All Voiced

2.1 **Warm-Up:** Holm-molm-molm-molm-molm, as a sigh.

Use good breath support and ensure that voice is being projected forward.

2.2 Holm-molm-molm-molm-molm, on a sustained pitch.

What is the pitch that you have chosen?

2.3 Molm-molm-molm, but:

1. Slow-fast-slow.
2. soft-loud-soft on the sustained notes.

2.4 Molm-molm-molm, as speech. Pretend you are saying a sentence, but only use the intonation and not the actual words.

Vary rate, pitch, and loudness. Make the connection from the abdominal muscles to the lips.

2.5 Chant the following voiced phrases on a particular note:

- Mary made me mad.
- My mother made marmalade.
- My mom may marry Mary.
- My merry mom may marry Mary.
- Marvin made my mother merry.

2.6 Over-inflect these phrases as speech.

3 Voice-Voiceless Contrasts

3.1 Mamapapa. Vary rate, on a particular note.

3.2 Mamapapa.

1. Slow-fast-slow.
2. soft-loud-soft on a particular notes.

3.3 Mamapapa, as speech. Use non-linguistic phrases, like “mamapapa?”, “mama-papa!”, and “mamapapa.”.

3.4 Chant the following voiced phrases on a particular note:

1. Mom may put Paul on the moon.
2. Mom told Tom to copy my mar ner.
3. My manner made Pete and Paul mad.
4. Mom may move Polly’s movie to ten.
5. My movie made Tim and Tom sad.

3.5 Over-inflect these phrases as speech.

4 Phrases with Meaning

4.1 Do chanting on a note, over-inflecting, and natural speech for these phrases:

- All the girls were laughing.
- Get there before they close.
- Did you hear what she said?
- Come in and close the door.
- Are you going tonight?
- Put everything away.
- Come whenever you can.
- We heard that yesterday.
- The player broke his leg.
- The children went swimming.

4.2 For the next set of exercise, focus on where you feel the energy of your voice for each word that you say.

- Count from 1-10
- Count from 70-80
- Count from 170-180
- Say the months of the year

4.3 Say these sentences. After each sentence, stop and reflect on how it felt. Did it feel easy and free? Did your voice "drop off" at the end?

- Turn it down.
- I took a nap at noon.
- It began to rain at noon.
- Gene ran for senator and won.
- Lawns need rain to remain green.
- Ben turned the fan on in his van.
- Not one crane was seen before noon.
- Don and Jean went on their honeymoon.
- Gene is a lean, mean, running machine.
- The chicken noodle soup is nearly gone.
- My neighbors painted my new barn in only one day.
- My arm is numb.
- Come to my summer home.
- Marlene can roam a shopping mall all morning.
- Our home team will meet the Mets on Monday.
- Meet me in my room at the same time tomorrow.
- I've made up my mind; we may move to Maine.
- Mark and Mona will be married in the middle of May.
- Come with me and have some of Mom's marvelous homemade jam.
- Many men were mining.
- Mama made lemon jam.
- Mary made muffins every morning.
- His ears buzzed.
- He bruised his knees.
- His nose is as red as a rose.
- His shoes are the wrong size.

5 Notes: Resonance

Resonant voice is often an effective way to produce strong, rich vocal projection while maintaining relaxed shoulders, neck, jaw, tongue, and lips. Some describe resonant voice as less effortful, buzzy, focused, and/or "easy." With this technique, you will utilize your body's natural resonance to produce a rich, "free" voice which much less muscular effort.

1. Sit as tall as you can with your head resting comfortably. You should be able to move your head easily from side to side. Take care not to slouch or raise your chin in the air. Once seated comfortably with your arms resting at your sides and your shoulders relaxed, take a few deep belly breaths. When exhaling, maintain a continuous breath stream. If you feel any resistance in your chest or neck while exhaling, take a few more breaths until you are exhaling freely. You are now ready to begin to explore your resonant voice.
2. To begin, gently allow your lips or tongue to trill without voice. You should feel the air gently bubble through your lips without effort from your neck or throat. After this feels easy, and your throat feels very open and free, add your voice. Does this change the effort in your throat? See if you can do the trill without any pushing or effort from your throat, neck, or shoulders. Now that you are producing an easy trill, see if you can vary the pitch up and down the musical scale. Does it still feel free?
3. Now that you've warmed up and feel relaxed in your neck, throat, and jaw, lightly start humming at a comfortable pitch. Do you feel "buzzing" or vibratory sensations in your head bones and facial tissue?
4. After warming up, practice with the exercises in Section 2.

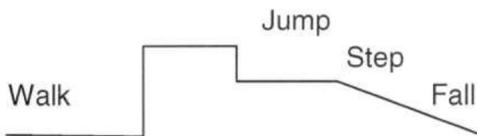
6 Notes: Inflection

Inflection refers to the change in pitch when we say a word, phrase or sentence. We use inflection all the time to distinguish questions from statements and to add meaning to what we are saying. You can practice inflections producing words like the ones below:

Stretch the words out (like you are doing glides), exaggerate the sounds and notice your pitch change:

Really? Really! Where? There! Why? Because!

The main textbook describing voice modification for people in the transgender community (Adler, Hirsch Mordaunt, 2006) has a nice visual for inflection in English sentence:



Normal inflection in English (for declarative sentences) follows this pattern. Try it; notice how your pitch is changing. Is the change easy or effortful? Can you do it without movement of your shoulders? Remember, you do not need a deep breath to do this.

Now try to follow this pattern with the following sentences. The italicized word is the one that you should "jump" on. It is suggested that the beginning word ("walk") is produced with a gender neutral or female pitch:

- Your *car* is running.
- The *store* is open.
- I *can't* stop by.
- We *tried* to visit.
- The *water* is running.
- My *shoes* are tight.

7 Notes: Articulation

Research suggests that the perception of a female voice can be enhanced when a speaker produces:

- Easy (breathy) voice onset.
- More precise ("correct") production of speech sounds.
- Light articulation contacts.
- Continuous, flowing speech (linking).
- Vowels that are longer in duration.
- Increased lip spreading.
- Forward tongue carriage.

Here are some ideas that may be useful to you, in order to stretch your articulators a bit:

1. Exaggerated chewing: pretend you have 4-5 pieces of gum in your mouth at one time. Chew without making sound, and then try to chant a bit while you produce the chewing motion.
2. Massage your cheeks, with our without chewing
3. Alternating lip movements: go from lip rounded (kissing) to lips spread (smiling). Do this several times in a row: be slow and deliberate. Really stretch.
4. Repeat lists like the days of the week or months of the year. Do slowly and with exaggerated movement. One SLP who works with performers suggests doing this while lightly biting down on your tongue while you stick it out.
5. Yawn-sigh: attempt the most authentic yawn you can imagine. As you exhale, sigh "ah" and hold it out for 3-5 seconds.

Appendix A. Acoustic Assumptions: A Framework for Problem-Solving Resonance Challenges: Transfeminine

Learn these assumptions inside and out. Scan ahead to search out acoustic pitfalls, check your assumptions, and manipulate articulatory challenges accordingly to modify the tone of the sounds.

Voiced and Voiceless pairs (left set is voiced, right set is unvoiced/voiceless. Pairs move from front to back placement in the mouth)

b p	z s	th/th (the, thing)
d t	dg (jar) ch (chair)	
v f	g k	

Voiced sounds are darker than voiceless. Articulate the voiced sound with a lighter touch to avoid a pronounced acoustic burst. Do not actually replace the sounds as this will affect your accent. To understand which sounds are voiced and which are not, you can check by feeling the Adam's Apple for vibrations (notch of thyroid cartilage) during voicing. Voiceless sounds produce no vibrations as long as they are produced on their own (i.e. no following sound)

m, n, ng (ing, bong, long): The nasal sounds are produced with a potentially very tight contact and constriction. This will produce a pressed, dark sound when they are released. Lighten or loosen the contact as much as possible so that the sound blends fluently with other sounds in close proximity. The acoustic burst will be deemphasized and the darkness of the nasality will diminish sooner. i.e. the contact between your tongue and the back of your top front teeth for /n/ should be light – don't push, for /m/ barely hold your lips together and for /ng/ sense the slightest of contact between the back of the tongue and the soft palate, and do not squeeze at all.

Vowels in general produce a dark or low resonance, except for the ee /i/ (as in, Peter, feet) sound. Produce all vowels with an /i/ shape (light lip spreading) as much as possible to lighten their tone. Do not stretch, just feel ee as a light lift, almost as in a supercilious grin. Eventually you will be able to feel this internally. It doesn't take much to brighten the tone. Think /i/ when producing all vowels to bring the sound up and forward. This is reason why telephone sales people are told to smile when answering the phone. A smile is an /i/ posture. It sounds sweeter because of the way the instrument and vocal tract filter the sound.

Liquid sounds /l/, er, (flower) /y/ and /w/ are all produced with extreme tension of tongue or lips. Decrease the tension as much as you can without distorting the sound – just like with the nasals. Loosen the lips for the /w/ to produce it with less tone contrast. You might think /h/ after /w/ (h) but do not actually articulate it. Produce the 'er' with a gentle mid mouth feeling, rather fully pressing into the center of the palate.

A closed vocal instrument makes for a cave-like, dark sound, and abrupt blunt endings. Keeping the instrument (mouth) open, even beyond the end of a sentence keeps the sound alive and allows for a graceful diminution of resonant combinations. "Riding the vowel out" slightly might help, i.e. Hae (Hi), how aare, youu?"(but remember to think ee!)

Appendix B. Acoustic Assumptions: A Framework for Problem-Solving Resonance Challenges: Transmasculine

Learn these assumptions inside and out. Reviewing them daily until you know them will help. Scan ahead to search out acoustic pitfalls, check your assumptions, and manipulate articulatory challenges accordingly to modify the tone of the sounds.

Voiced and Voiceless pairs (left set is voiced, right set is unvoiced/voiceless. Pairs move from front to back placement in the mouth)

b p	z s	th/th
d t	dg (jar) ch (chair)	
v f	g k	

Voiced sounds are darker than voiceless. Take advantage of the darker resonance of the voiced sound. Don't shy away from the heavy tone. Feel the buzz of the voicing. A little extra pressure on the contact (**but, that's g**reat) will provide a louder, more pronounced contrast.

m, n, ng (ing, bong, long): the nasal sounds are produced with a potentially very tight contact and constriction. The more pressure build up, the darker the tone as the acoustic burst is released. Without pinching or holding the articulation unnaturally, take advantage of a little more pressure build to "add a dot of black to the colour of sound".

Vowels in general produce a dark or low resonance, except for the ee /i/ (as in, Peter, feet) sound. Produce all vowels with a slightly rounded or oval shape as much as possible to darken the tone. Focus the tone centre and back. Where possible elongate the instrument slightly with a bit of lip protrusion to enhance a deeper tone – do not press the pitch lower, it will be unsupported and unhealthy. Relax the jaw – feel the space inside the mouth.

Liquid sounds /l/, er, (flower) /y/ and /w/ are all produced with extreme tension of tongue or lips. Maintaining a small degree of tension in this articulation will provide a darker acoustic burst on release due to greater pressure build up.

An open vocal instrument at the end of a sentence makes for a lighter tone, and a gradual diminution of harmonics. A slightly abrupt/blunt close will capture the darker tones from the instrument. Experiment with this – you will know when it's too much. "Sure, I'll try that/, whatever you say/!"