The Care and Keeping of The Voice
(Yours AND Your Students)

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HEAVY–OCCUPATIONAL VOICE USE

Heavy–occupational voice users are at high risk of developing a voice disorder:

- Singers
- Stage actors
- Telemarketers
- Call center operators
- Salespeople
- TEACHERS!
What is a voice disorder?

- A voice disorder is any problem that impairs the voice from functioning adequately to meet the demands set by the speaker.

- Common symptoms include hoarseness, effortful/strained speaking, vocal fatigue, shortness of breath with speech and throat tightness, or pain with voice use.
Voice Disorders in Teachers

- 11% of teachers and 6% of non-teachers report currently having a voice disorder.
- 58% of teachers report a history of voice disorder sometime during their teaching career.
- Teachers of music, drama, and performing arts are significantly more at risk than other teachers — even more than physical education teachers and coaches.
Risk Factors

- The biggest risk factor for developing a voice disorder is occupation — anyone who relies heavily on their voice to do their job is at greater risk.

- A lesser known risk factor is gender. Women are much more at risk for voice problems, in part because when they speak, their vocal chords vibrate at roughly twice the speed of men’s, which puts twice the load on their voices.
Other risk factors include:

- Voice use patterns and demands
- Esophageal reflux
- Frequent colds/sinus infections
- Chemical exposures
- Anxiety/Stress
Hoarseness: *Hoarseness or other voice changes interfere with the quality and clarity of the voice, resulting in difficulty for listeners.*

Poor voice endurance: *results in vocal fatigue, lower volume, frequent repetition and increased effort to produce sound.*
Other signs and symptoms

- Gravelly voice
- Pitch breaks
- Whispering
- Breathiness
- Throat pain/soreness
- Chronic cough or throat clearing
- Inability to talk
The Cost of Voice Disorders

- 43% of teachers have to reduce classroom activities
- 18% of teachers miss work on a yearly basis because of voice-related problems.
- Lost work days and treatment expenses in the U.S. alone are estimated to be nearly $2.5 billion annually.
Vibration Dose

- Vocal fold injury can occur if a critical “vibration dose” is exceeded. Many teachers speak loudly for long periods without sufficient time for vocal fold tissue to recover. This likely contributes to vibration overdose.
- The desire to limit or reduce a teacher’s vibration dose (i.e., vocal load) has been the guiding principle underlying many voice therapy approaches.
Vibration Dose

- [https://www.youtube.com/watch?v=nFYnyAd2rro](https://www.youtube.com/watch?v=nFYnyAd2rro) (start @1:16)

The full segment on National Geographic [https://www.youtube.com/watch?v=9MDn5GgyxyU](https://www.youtube.com/watch?v=9MDn5GgyxyU)
Preventing Vocal Injury

- Be aware of how much, how loud, and how often you use your voice and avoid extended periods of voice use as well as yelling/screaming.
- Rest your voice, particularly if hoarseness or vocal fatigue occurs. Hoarseness is a symptom of a problem – don’t just keep pushing through.
- Warm Up your voice properly.
- Use a microphone if you talk frequently or to large groups.
- Try breathing, mindfulness, or other relaxation strategies to help reduce anxiety or stress.
Good Vocal Hygiene Practices

- Hydrate!
- Healthy Diet
  - Know and avoid trigger foods
- Exercise
- Compensate for Dehydrating Agents
- Reduce High Intensity Voice Use
- Limit Smoke Inhalation
- Control Allergen Exposure
  - Speak to your doctor about finding the best medicine for you
- Manage Reflux and Follow Precautions
  - Go to bed on an empty stomach
- Use hand hygiene and other infection prevention measures
Vocal Exercises

- Gliding the voice.
  Yawn sighs ~ Sirens ~ Opera Ghost ~ Register Sirens ~ Mm or Ng ~ Lip Trills
- Straws and Kazoos!
  Releasing laryngeal strain: through ‘oo’ and ‘ee’ on 5-note patterns Down–up–Down (with bicep curls in oppositional kinesthetic)
  Then try slow octaves
- Energizing the sound:
  Plah (5-note scale, with feather motion)
  Boi (5-note scale, w/punch)
- Ascending & Descending 5-note Scales on Noo, Noh, Nah
- Breath Work
  Leaky Tire ~ Dog Pant ~ Whispered ‘Ah’
Methods of Restoring Vocal Health

- **Vocal Hygiene (VH) instruction**: *
  - Vocal Function Exercises (VFE) VFEs claim to strengthen and rebalance the subsystems involved in voice production through a program of systematic exercise. The results of this clinical trial showed that only the group who exercised their voice reported a significant benefit (i.e., significantly reduced VHI scores).

- **Voice Amplification (VA)**: By providing increased loudness, the voice amplifier might reduce the teacher’s vibration dose.

- **Resonant Voice or Resonance Therapy (RT)**: RT involves training the teacher with a voice disorder to produce voice with a “forward/frontal tone focus” which accentuates mid-facial vibratory sensations. The objective of RT is to achieve a strong voice with minimal vocal fold impact stress.

- **Respiratory Muscle Training (RMT)**: * RMT attempts to strengthen the expiratory muscles in order to help patients with voice disorders increase their ability to generate expiratory pressures. By improving the strength of the expiratory muscles, the burden on the larynx is presumably lessened—with a reduction in compensatory hyperfunctional laryngeal behavior and reduced tissue trauma.
What if you think you have a voice injury or a voice disorder?

- If hoarseness and other symptoms last three weeks or longer outside of other illness symptoms, see an ear, nose, and throat physician or a speech pathologist who has expertise in evaluating and treating voice disorders.
Care of Our Student’s Voices

...Helping our students learn to care for their instruments
Children’s Ranges

- Young children come to us with small ranges!
- A child’s initial singing voice range D (above middle C) to A. The initial range is about a fifth.
- Dr. Edwin E. Gordon: a child’s initial audiation range is also D above middle C to A.
Young children (First grade and younger): Try to stay within the initial singing voice and audiation range. Most songs will be in D Major or d minor. *When can we increase the range?*

When the majority of children are matching pitch and using their initial singing voice range well, you can start to expand over “the break” and begin to work more on head voice.

This typically occurs towards the end of first grade. But, if you see your kids only once a week, it may take longer.

You cannot force or rush the process.

It takes time to develop good singers.
One of the most common mistakes adults make when singing with children is “pitching” songs in a key that is comfortable for themselves, but unfortunately, out of a comfortable singing range for the children.

Adults sing in much lower range than children.

Pitching songs too low not only causes children to be unsuccessful at reaching the lower notes, but creates an unhealthy vocal situation.

An incorrect key can take away the child’s ability to sing the song well or sing the song at all.
Singing in a key that is out of a child’s range would be analogous to an art teacher giving a creative assignment to students and then placing all of the art materials up on a shelf out of reach for most of them. While a few might be tall enough, most won’t be. After a while, they will give up trying to reach the material altogether. Similarly, these are the students who start to believe they can’t sing at all, and give up on music.
Expanding the Vocal Range

- Go slowly
- Be careful and deliberate
- Songs in the key of F to get them above the vocal break (B).
- Then, begin to move to songs in the key of G so that they begin to become more comfortable over the break and learning to transition into their head voice.
Figure 2. Range and Tessitura for Elementary-Aged Children

[Pitch names altered to match the International Standards Organization.]
Helping children find their head voice
Have children imitate the sound of a:
- Wolf, coyote, ghost, owl, siren, train whistle, wind
Remember the exercises we did earlier?
- Gliding the voice.
  - Yawn sighs ~ Sirens ~ Opera Ghost ~ Register Sirens ~ Mm or Ng ~ Lip Trills
- Straws and Kazoos!
  - Releasing laryngeal strain: through ‘oo’ and ‘ee’ on 3 & 5-note patterns
    Down–up–Down (with bicep curls in oppositional kinesthetic)
- Energizing the sound:
  - Plah (3– and 5–note scales, with feather motion)
  - Boi (3– and 5–note scales, w/punch)
- Ascending & Descending 5–note Scales on Noo & Nee

Breath Work
- Leaky Tire ~ Dog Pant ~ Whispered ‘Ah’
ANY QUESTIONS?
Sources:

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