Relieve the Wheeze: The Secret of the Sports Whisper
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Disclosures
- No financial relationships

Objectives
- Review of components of the speech evaluation
- Overview of treatment strategies in the literature
- Breathing technique workshop
Speech Language Evaluation

Why am I here?

Lengthy discussion/description of the disorder

Voice Measures:
Maximum phonation time
s/z ratio

Description of paradoxical vocal fold motion

Checklist of Symptoms

- Tightness in Chest or Throat
- Presence of Stridor
- Absence of wheezing
- Trigger of exercise
- Only 1 trigger
- Onset is under 5 minutes
- Short recovery period
- Rescue inhalers are not helpful
- Does not awaken in the night with symptoms

Sandage & Zolazny, 2004

New advances in diagnosis

Airflow Perturbation Device

- Portable
- Handheld
- Determines respiratory resistance over time
- Gives reports separated out for inspiration, expiration and averages for both phases

Gallena et al., 2015
Therapy is recommended
Possible referral to a pulmonologist?
Referral to a psychologist?
Quick Sniff technique

Common Components of Intervention

Active Exhalation
Relaxation of oropharyngeal muscles
Patient Education

Diaphragmatic Breathing
“Wide Open” Throat Breathing
Visual Feedback

Psychoeducational Counseling
Vocal Hygiene
Inspiratory Muscle Training

Active Exhalation
Focus attention away from the larynx
Concentrate on the active exhalation rather than on inhalation
Practice first during normal periods of breathing

Nacci et al., 2011
**Relaxation of oropharyngeal muscles**

- Use of imagery
- Progressive relaxation techniques
- Stretching

Focusing tension away from the larynx to other areas of the body (such as the diaphragm and core muscles)

Christopher et al., 1983

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**Patient Education**

- Discussion of the symptoms occurs at each session
- Empowering the patient to be able to take control of the breathing
- Thorough debriefing of each episode, feelings associated before and after

Campainha et al., 2012

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**Diaphragmatic Breathing**

- Focus attention away from the larynx
- Starting with imagery of breathing into the stomach, forcing the stomach to move outwards with inspiration
- Maintaining the shoulders in a neutral position
- Expanding the thoracic cavity laterally to deepen the breath

Sharma & Singh, 2007
“Wide Open” Throat Breathing

- Maintaining a relaxed position
- The tip should push against the lower front teeth
- Using diaphragmatic techniques

Pinho et al., 1997

Negative Practice

- Inhale noisily
- Close the vocal folds to make this happen
- Increase the tension in the vocal tract
- Bring the chin forward and up
- Should be done only to contrast the relaxed throat breathing.

Pinho et al., 1997

Coordinated thoracic-abdominal breathing

- The patient breathes normally while counting to 20.
- The SLP places 1 hand on the patient’s abdomen and upper thorax to help assess breath movements
- Builds awareness of the patient for the non coordinated breathing.
- Retrain to coordinate using diaphragmatic techniques

Sullivan et al., 2001
Vary breathing patterns to help patients better understand effects on the vocal folds.

Educate patients on the positions of the vocal folds and how to better control them.

Complete nasendoscopy to view the vocal folds.

Flexible nasopharyngolaryngoscope with a video camera attached.

Altman et al., 2000

Psychoeducational Counseling

Discuss the differences between behavioral and medical treatment.

Can be completed by an SLP as it relates to direct treatment.

Internalizing the control of the problem within each situation.

Vertigan et al., 2008

Vocal Hygiene

Drinking water

Vocal rest

Avoiding cough

Avoiding dairy products

No yelling/screaming

No whispering

Ryan, Vertigan, & Gibson, 2009
**Inspiratory Muscle Training**

- Device that had a mouthpiece and a valve that opens when a sensor detects negative pressure at a particular level
- No breathing through the nose
- First breathe normally for a few breaths and then have a prolonged exhalation. This is followed by an inhalation that is against resistance
- Complete 12 training breaths in each session

Mathers-Schmidt & Brilla, 2005

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**Home Programming**

Breathing exercises should be performed 3–4 times a day to increase motor learning (Hatzelis & Murray, 2012)

Breathing exercises to be performed 2x/day for 10 to 15 minutes (Murry et al., 2010)

Complete exercises 1x/day while at home – inconclusive influence on results (Nacci et al., 2011)

Hatzelis & Murray, 2012, Murry et al., 2010, Nacci et al., 2011

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**Low–frequency v. High–frequency Intervention**

<table>
<thead>
<tr>
<th>Therapy</th>
<th>Interventions</th>
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<tbody>
<tr>
<td>Low frequency Therapy</td>
<td>1 cycle of treatment every 12 months (9 total cycles)</td>
</tr>
<tr>
<td>High frequency therapy</td>
<td>1 cycle of treatment every 3 months (9 total treatment cycles)</td>
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</table>

Findings:

- Both therapies were effective, however the high frequency therapy patients had fewer episodes per month

Nacci et al., 2011
Treatment Models

In clinic sessions
- Length of session
- Frequency
- Number of total sessions

Telepractice sessions
(Towey 2012)
- Challenges in lack of provider
- Transportation limitations
- In the study 7/7 patients had symptoms that resolved

Practice of Techniques

Quick Sniff – Quick Recovery Technique
- Breath quickly in through the nose
- Exhale using a /f/, /s/ or pursed lips
- Complete for multiple cycles

Diaphragmatic breathing
- Start with hand on stomach
- Breathe in slowly, expanding the stomach
- Slowly exhale pushing the stomach back in
- Make sure there is no movement in the shoulders

Notes on Practicality of Using Techniques

Can not breath in through the nose and out through the mouth 100% of the time
Use of rescue breaths
Increasing the awareness for the onset of symptoms
Swimming?

Only happens in very specific situations, difficult to replicate.

Environmental triggers

Coughing instead of stridor?

References

References