

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 & Zelazny, 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

Recommendations

- 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

Patient Education

Campinha et al., 2012

Diaphragmatic Breathing

Sharma & Singh, 2007

“Wide Open” Throat Breathing

Concentrating on having the lips closed	· Maintaining a relaxed position
Tongue is flat resting on the floor of the mouth.	· The tip should push against the lower front teeth
Release the jaw forward and breath	· 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

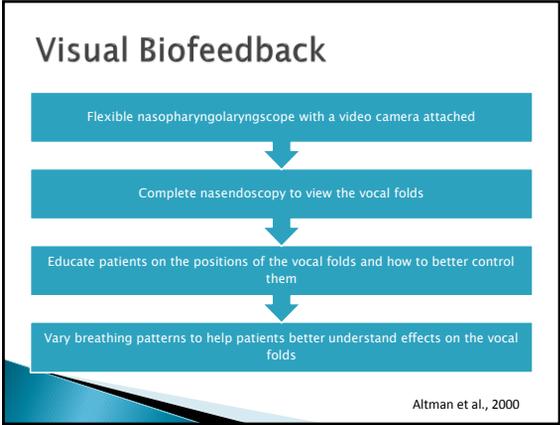
The patient breaths normally while counting to 20.

The SLP places 1 hand on the patient’s abdomen and upper thorax to help assess breath movements

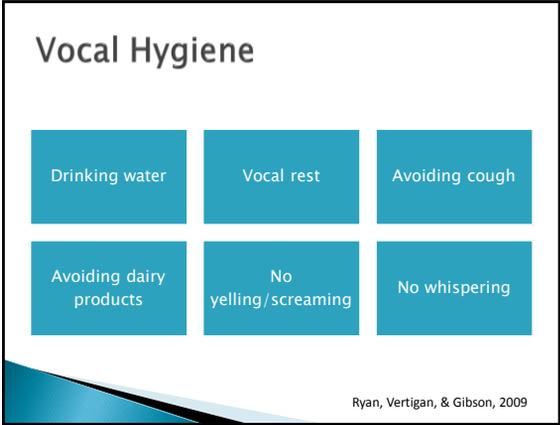
Builds awareness of the patient for the non coordinated breathing.

Retrain to coordinate using diaphragmatic techniques

Sullivan et al., 2001







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

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

Low-frequency v. High-frequency Intervention

Low frequency Therapy

1 cycle of treatment every 12 months (3 total cycles)



High frequency therapy

1 cycle of treatment every 3 months (9 total treatment cycles)



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

Challenging situations

Swimming?

Only happens in very specific situations, difficult to replicate

Environmental triggers

Coughing instead of stridor?

Questions?

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