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ONLINE CONTINUING EDUCATION FOR THE LIFE OF YOUR CAREER

Treatment of Pediatric and Adolescent Vocal Athletes

Wendy DeLeo LeBorgne, PhD, CCC-SLP

Moderated by:
Amy Natho, MS, CCC-SLP, CEU Administrator, SpeechPathology.com

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How to earn CEUs

- Must be logged in for full time requirement
- Log in to your account and go to Pending Courses
- Must pass 10-question multiple-choice exam with a score of **80%** or higher
  - Within **7 days** for live webinar; within **30 days** of registration for recorded/text/podcast formats
- Two opportunities to pass the exam

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Treatment of Pediatric and Adolescent Vocal Athletes

Wendy DeLeo LeBorgne, PhD, CCC-SLP
Voice Pathologist & Singing Voice Specialist

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Learner Outcomes

- Participants will be able to identify what constitutes a vocal athlete, and common laryngeal pathologies in vocal athletes.
- Participants will be able to describe the role of the SLP in the multidisciplinary treatment of vocal athletes.
- Participants will be able to identify two direct voice therapy treatment options to remediate vocal injury in pediatric and adolescent vocal athletes.

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Overview

- Defining the pediatric & adolescent vocal athlete
- Vocal Injury incidence and prevalence
- Common Vocal Injuries in vocal athletes
- Laryngeal Pathologies and treatment approaches
- Multidisciplinary management of vocal athletes
- Case Study

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The Numbers

- 41,000 K-12 Choruses in USA
  - Early music exposure develops
    - Future performers
    - Audience members
    - Patrons of the arts
- Music Educators Say…:
  - 90% say choral singing can enhance student creativity.
  - 90% say that singing in a choir can instill efficient and effective practice habits.
  - 81% believe choruses can help students make better connections between disciplines.
  - 88% say singing in a choir can improve a child's overall academic performance.
  - 86% say choral singing can improve a child's language skills.
  - 63% say singing in a choir can improve a child's abilities in math.

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Influence of Commercial Music

- Musical Theatre
- Pop
- Rap
- Hip-hop

- EVERYTHING in commercial music is both amplified and compressed.
- https://www.youtube.com/watch?v=b_xkDB_Ybx0&list=UUHuH3XfVqDbK_O-IzLQIeqA

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So…..Let's keep these kids Vocally Healthy!

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Incidence & Prevalence of Vocal Injury

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Incidence/Prevalence of Vocal Injury in Performers

- Voice disorders within the general population @ 30% (Roy, et al., 2005)
- Vocal injury within high vocal demand professions
  - Teaching – 57% reported vocal problems
  - Performing Arts
    - Hoffman-Ruddy, et. al (2001) –theme park performers
      - 100% subjects were abnormal
    - Tepe, et al (2002) – 129 young choral singers
      - 56% reported some vocal difficulty
    - Heman-Ackah, et al (2002) – stroboscopic findings in singing teachers
      - Asymptomatic vocal fold lesions found
    - Elias (1997) – Presence of pathology in non-symptomatic opera singers
      - 58% had pathology in absence of vocal complaint
    - Lundy (1999) – college-level singing students
      - 73% had reflux laryngitis

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Common Injuries in Pediatric & Adolescent Vocal Athletes

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Common Complaints/Symptoms

- Hoarseness (may or may not affect speaking voice)
- Voice fatigue
- Loss of frequency range
- Loss of intensity control
- Hole in the voice
- Vibrato changes
- 'Fuzzy' sound
- Shift in range
- Increased warm-up time
- Tickling/choking
- Chronic throat clearing
- Laryngeal pain

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Most Common Vocal Injuries in Vocal Athletes

- Overuse injury/Repetitive strain
- Vocal Fatigue
- LPR/GERD
- Muscle Tension Dysphonia
- Acute laryngitis
- Laryngeal Myasthenia (muscle weakness of laryngeal muscles)
- Nodules
- Polyps
- Vascular lesions

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LPR & GERD

- LPR: "A form of gastroesophageal reflux disease in which gastric juices affect the larynx and adjacent structures. Commonly associated with hoarseness, frequent throat clearing, granulomas, and other laryngeal problems, even in the absence of heartburn" (Sataloff, 1997)
- GERD: Gastric juices flowing from the stomach back up into the esophagus. Often associated with heartburn.
- Treatment: Diet & lifestyle changes in conjunction with medical management (GI)

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ACUTE & CHRONIC LARYNGITIS

- Inflammation of the vocal fold mucosa
- Causes mild to severe dysphonia, decreased pitch, & phonation breaks
- Usually the result of an upper respiratory infection or bacterial infection
- Recommendations: external (steam) and internal (water) hydration, antibiotics (as prescribed), and VOCAL REST!

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NODULES

- Inflammatory degeneration of the superficial layer of the lamina propria with fibrosis and edema. (acute & chronic)
- Occur bilaterally and in the same place on everyone
- Caused only from vocal abuse or misuse over a period of time
- Treatment: 1) VOICE THERAPY (behavioral modifications & direct therapeutic intervention) 2)ONLY IF THERAPY FAILS SHOULD SURGERY BE CONSIDERED

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POLYPS

- Fluid filled lesion, most have active blood supply
- Most often occur on one side, but can occur bilaterally
- Thought to be a result of acute vocal trauma
- Recommendations: 1) Short term therapy (6-8 weeks)2) If no resolution, then may require surgery with subsequent voice rest and rehabilitation

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Sessile

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CONTINUED

VASCULAR LESIONS

- Hemorrhage, hematoma & varix
- Result of some traumatic injury to the small blood vessels of the vocal folds
- Appears most commonly in pre-menstrual women using aspirin products
- Treatment: 1) strict voice rest until resolution (7-10 days) 2)sometimes steroids 3)in unresolved varices careful laser vaporization 4) VOICE THERAPY

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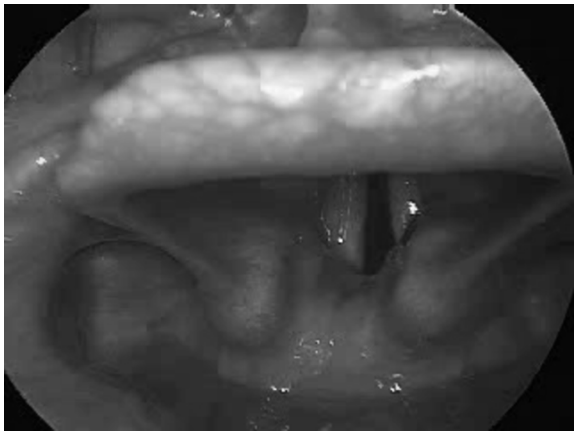

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Where and how does the SLP fit into the Vocal Athlete treatment spectrum?

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Patient Centered Voice Care: What are we evaluating?

Speech Pathologist

- Structure and function of the laryngeal mechanism: postural, respiratory, phonatory, resonance, articulatory
- Aerodynamic and acoustic deficits resulting from structural or functional abnormality
- Perceptual correlates of voice disturbance

Singing Voice Teachers

- Technical faults in voice production: postural, respiratory, phonatory, resonance, articulatory & artistic
- Aesthetic acceptability for a given musical genre or vocal classification (fach)
- Inherent talent/vocal beauty

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CONTINUED

Patient Centered Voice Care: What are we qualified to treat?

Speech Pathologist

- ASHA Scope of Practice
- National Code of Ethics
- State by State Regulatory guidelines
- "The overall objective of speech-language pathology services is to optimize individuals' ability to communicate and swallow, thereby improving quality of life." ASHA Practice Policy, 2007
- Scope of Practice vs. Scope of Competence

Singing Voice Teachers

- NATS Code of Ethics
- Singers with technical vocal problems
- Persons desiring to improve vocal performance/skill-set
- Artistic vocal development

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Multidisciplinary Management

History of "the team" approach

Defining roles for team members

Potential benefits

Potential pitfalls

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Defining the Team

- Medical: Laryngologist (MD) and Speech Language Pathologist (SLP) with expertise in voice (may or may not be singer)
- Qualifications:
  - Comprehensive knowledge of laryngeal structures, pathologies and impact of pathologies on vocal fold vibration and voice function (including speaking, singing, acting)
  - Skilled in diagnosis and medical management (MD)
  - Assessment and treatment of FUNCTION based on vocal needs of patient, medical diagnosis and vocal capabilities (SLP)
    - Can work with patient who sing
    - Needs expertise in effect pathology has on singing only if singing is impaired once rest of voice function restored
  - Licensed and Certified
- Non Medical: Singing teacher
  - Brings expertise to the final habilitation at generalization when singing is primary issue
  - Not licensed or certified to treat pathology
  - Coach, agent
    - Support

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Vocal Injury Management Model

- How is treating the singer different than treating other professional voice users?
- Pathway for injured singer
  - Singing teacher notices problem in the studio – when to refer
  - MD/SLP eval. and treatment (Teacher's involvement in process? Developing a coordinated plan.)
  - Does treating the pathology in the clinic fix the problem?
  - Are they ready to go back to their studio work?
  - Does the SLP have the expertise to continue rehabilitation if the effect of the pathology is specific to singing?
  - If not, where to refer? (Another SLP with expertise? Singing teacher with specialized training?)
- Resources
  - Standards, Oversight, Advocacy, Resources for Continuing Education
  - Professional organizations
    - Classical singing (NATS, NYSTA)
    - Non-classical singing (??????????)
    - Scope of practice and general issues (ASHA, State regulatory agencies)
  - ASHA collaborative position statement with NATS and VASTA (2005)
    - Does this matter? How prevalent is membership? (More than 7000 members)

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Patient Centered Voice Care: Multidisciplinary Team Benefits?

- Patient Benefits
  - Outcome measures
  - One stop shopping
  - Unique, focused, specialized skill sets
- Cost/Time Efficiency
- Interdisciplinary & collaborative research and relationships

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Patient Centered Voice Care: Multidisciplinary Team Pitfalls?

- Blurring of professional lines
- Liability
- Blurring of therapy session vs. voice lesson
- Billing and Reimbursement issues
- Redundancy of services
- Non-regulated (ASHA/NATS)

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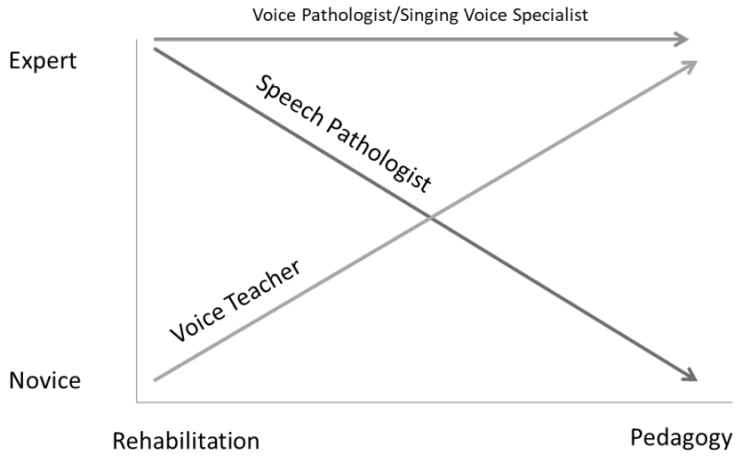
Knowledge Basis/Skill Set



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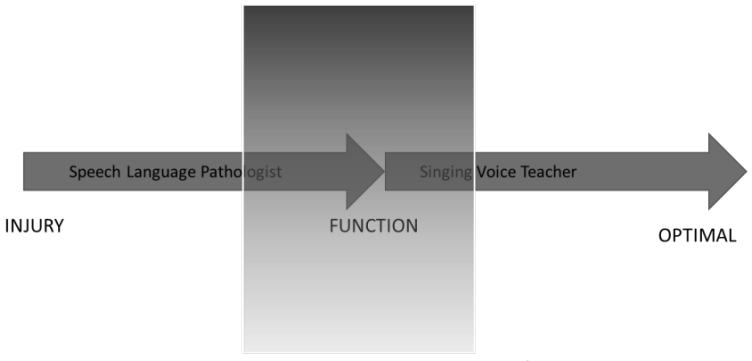
Rehabilitation Paradigm for SLP's Treating Singers



What happens when "functional" is 8 shows/week?

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Case Study

Professional Adolescent Performer

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Case Study – Adolescent Performer

- 12 y/o female (SCPA) referred to clinic by private voice teacher for evaluation of hoarseness
- Neither parents nor patients perceived change in voice, but reported patient had always had "interesting" voice

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Case Study – Adolescent Performer

- Patient History
  - Chief Complaint: Appease the voice teacher/rule out "something bad"
  - Medical History: Chronic nasal congestion (not treated)
  - Surgical History: None
  - Current Voice Demands: School for Creative and Performing Arts; Choral Ensemble: 1-2hrs/day; Acting class: 1 hr/day; Guitar lessons: 1 hr/week; singer/songwriter: ongoing
  - Current Social Voice Demands: vocally enthusiastic
  - Performance/Rehearsal Conditions:….a little backstory……

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CONTINUED

Case Study – Adolescent Performer

- Backstory:
  - 4 months prior to presenting to clinic, patient presented to private studio for a lesson & coaching for an off-Broadway audition.
  - At the time of the lesson, dysphonia was noted and recommendation was made to see ENT
  - One lesson/coaching session completed & patient left for NYC audition
  - Patient got cast in off-B'way production
  - Limited voice lessons/coaching other than with vocal coach of the show
  - Never got voice evaluated
  - Made it through the performances
  - Her voice is unique and hirable

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Case Study – Adolescent Performer

- Backstory (cont).
  - Patient returns to home following 20+ performances
  - Patient begins school at SCPA (where voice teacher noted hoarseness)
  - Referred to ENT & Voice Center

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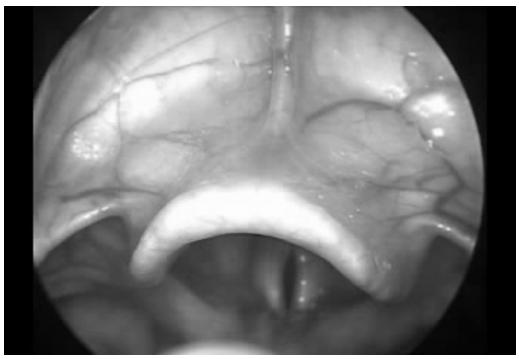
Case Study – Adolescent Performer

- Initial Stroboscopic Evaluation



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Case Study – Adolescent Performer

- Stroboscopic Findings
- Treatment Planning
  - Rehabilitative voice therapy
    - Vocal "diet" & vocal "exercise"
    - Identification of deviant vocal behaviors & replacement with efficient and effective substitutions
    - Vocal reconditioning
- And "Oh, by the way…."

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Case Study – Adolescent Performer

- Voice Therapy
  - VFE's (modified to SOVT w/resistance)
    - More fun for the patient
    - Will use to facilitate skill into carry over
  - Development of vocal awareness
    - How much is she actually singing/talking?
    - Voice conservation – save it for what you MUST do
  - Functional Carry-over
    - RVT within a functional context

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Case Study – Adolescent Performer

- Current Vocal Demands (beyond school)

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Case Study – Adolescent Performer

- Carry over from injury to function
  - Functional level of voice for this patient requires 6-8 shows per week at a consistent vocal output (plus school demands)
  - Mild dysphonia is currently useful to this patient in the roles she is being cast
  - Goals: functional frequency range, flexibility, stamina, and consistency of voice

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Case Study – Adolescent Performer

What does a carry-over session look like with this patient?

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Case Study – Adolescent Performer

- Exercise 1:
  - Goal: to decrease laryngeal elevation and extrinsic laryngeal muscle tension prior to initiation of phonation
  - Use tactile (hands on shoulders/rib cage/back/neck) cues, visual cues (mirror), verbal cues, and kinesthetic feedback within a functional situation to retrain motor patterns for efficient vocal output

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Case Study – Adolescent Performer

- Exercise 2:
  - Goal: to decrease jaw tension
  - Use tactile (hands on shoulders/rib cage/back/neck) cues, visual cues (mirror), verbal cues, and kinesthetic feedback within a functional situation to retrain motor patterns for efficient vocal output

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Therapy Session

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Thank you!

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