



Case Study:

Team Develops Plan to Treat a Music Major's Muscle Tension Dysphonia

SIG 3: Voice and Upper Airway Disorders

Summary

An interprofessional team collaborated across specialties to diagnose a 20-year-old college student with muscle tension dysphonia and paradoxical vocal cord dysfunction. After the student returned to college, the initial team worked with a local speech-language pathologist (SLP) and with a college voice coach to continue her treatment. After 6 weeks, the student's speaking voice returned to normal limits, and her singing voice and vocal endurance returned to baseline levels.

Patient Info



MEGAN
20-YEAR OLD

Current Diagnosis:
Dysphonia

Meet The Team



Clinical nurse
coordinator



Laryngologist



Local SLP
(added later)



Local
voice coach
(added later)



SLP
(co-facilitator)



Singing voice
specialist
(co-facilitator)



Patient

Continue for more

Background

Megan is a 20-year-old woman majoring in music, dance, and theater at a small liberal arts college. She wants to be a professional singer and actress with a touring musical theater company. Megan was on her first 2-week tour with her college performing group when she experienced sudden-onset breathing problems and hoarseness. She was rushed to the emergency room at the local hospital, where she received pulmonary, cardiology, and otolaryngology workups.

The results of these tests were unremarkable, and the otolaryngologist on call referred her to the outpatient multidisciplinary voice clinic. She was discharged with normal breathing and oxygen saturation levels but persistent hoarseness. The clinical nurse coordinator contacted the otolaryngologist to obtain medical records and to ensure continuity of care.

How They Collaborated

Two days after her emergency room visit, Megan had an appointment with the IPP team at the outpatient voice clinic. At the meeting to discuss Megan's case, the team agreed on their individual assessment roles and responsibilities.

When the SLP and laryngologist assessed Megan, they found that her breathing was normal, but her voice quality was aphonic. A standard head and neck examination revealed no significant findings. Symptom provocation trials were unsuccessful, and flexible videolaryngostroboscopy, laryngeal function studies, and stimulability testing revealed no structural or neurological changes. The singing voice specialist assessment was postponed, given Megan's aphonic voice quality.

Afterwards, during the IPP team briefing, the SLP discussed medical options with the laryngologist, and they determined that Megan would benefit from a lidocaine rinse procedure. The SLP suggested that the singing voice specialist do a consultation afterwards, and the team discussed the pros and cons of this approach. Collectively, they agreed to perform the laryngeal visualization evaluation as a team.

The SLP performed a flexible laryngoscopy while the laryngologist administered topical lidocaine to the larynx. The endoscope was left in place to provide visual biofeedback to Megan. The SLP and the singing voice specialist performed therapeutic probes, and Megan began demonstrating normal voicing during syllables and during short phrases. The team employed negative practice so that Megan could alternate old and new voice production. The singing voice specialist determined that negative practice also helped Megan with her singing voice at that time.

Megan was diagnosed with muscle tension dysphonia and, likely, paradoxical vocal cord dysfunction. The IPP team members educated Megan on these diagnoses, including teaching her several voice therapy, rescue breathing, and singing voice techniques.

Because Megan's college is located in a different state from the outpatient voice clinic, the team worked to develop a treatment plan with local professionals in Megan's college town. Once she returned home, the IPP team was expanded to include a local SLP and Megan's college voice coach. The assessing SLP and the singing voice specialist were selected as team facilitators. They obtained a HIPAA release so that they could share findings with the local SLP and with the local voice coach.

How They Collaborated continued

Via IPP phone meetings, the two SLPs and the two voice coaches recommended an initial trial of five voice sessions. They also reflected upon techniques to provoke vocal cord dysfunction symptoms, given that Megan's initial assessment had failed to reproduce the symptoms.

Outcome

The local SLP and the college voice coach used the IPP team's initial plan to work with Megan and continue the improvements established during her initial assessment. They periodically reached out to the assessing SLP and singing voice specialist to discuss treatment and report progress.

Megan's symptoms diminished during day-to-day conversation after three treatment sessions with the SLP. However, it took 6 weeks of working with the local voice coach for Megan's speaking voice quality to return to normal and for her singing voice and vocal endurance to return to baseline levels.

Ongoing Collaboration

After Megan participated in five appointments over the course of 2 months with the local SLP, she was discharged. The local SLP sent the discharge summary to the assessing IPP team. The local voice coach continues to work with Megan on healthy singing and theater voice production during their regularly scheduled sessions at the college. No further SLP voice treatment was indicated. The IPP team has instructed Megan to contact either her local SLP or the original assessment team should her symptoms recur.

Case Rubric:

Team Develops Plan to Treat a Music Major's Muscle Tension Dysphonia

SIG 3: Voice and Upper Airway Disorders

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MEGAN
20-YEAR OLD

Current Diagnosis:
Dysphonia

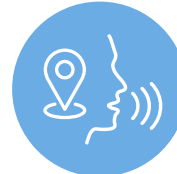
Meet The Team



**Clinical nurse
coordinator**



Laryngologist



**Local SLP
(added later)**



**Local voice coach
(added later)**



**SLP
(co-facilitator)**



**Singing voice
specialist
(co-facilitator)**



Patient

Continue for more

History and Concerns

(Share key information gathered from team)

Megan is a 20-year-old female music-dance-theatre major at a small liberal arts college. She wants to be a professional singer and actress with a touring musical theatre company. **Megan** was on her first 2-week tour with her college performing group when she experienced sudden onset breathing problems and hoarseness. She was rushed to the emergency room at the local hospital, where she received pulmonary, cardiology, and otolaryngology workups. The results of these tests were unremarkable, and the otolaryngologist on call referred her to the outpatient multidisciplinary voice clinic. She was discharged with normal breathing, normal oxygen saturation levels, but persistent hoarseness. The clinical nurse coordinator contacted the otolaryngologist to obtain medical records and to ensure continuity of care.

Assessment Plan

(Determine roles/responsibilities for evaluation)

Two days after her emergency room visit, Megan was seen for a team-based voice clinic appointment by the IPP team at the outpatient voice clinic. Megan's team consisted of a speech-language pathologist (SLP), a laryngologist, a singing voice specialist, and the clinical nurse coordinator. **During the morning meeting where the day's caseload is briefly discussed, the team agreed on the assessment roles and responsibilities of each team member, as follows:**



Ms. Clinic, SLP – voice and upper airway evaluation, including flexible videolaryngostroboscopy, laryngeal function studies, symptom provocation, therapeutic probes, and biofeedback, as indicated.



Dr. X, Laryngologist – medical voice and upper airway evaluation, including general head and neck examination, interpretation of laryngeal imaging in conjunction with SLP.



Mr. Voice, Singing voice specialist – singing voice evaluation, interpretation of assessment results related to singing.



Ms. M, Clinical nurse coordinator – ensure that medical record and medications are current, coordinate future referrals.

Assessment Plan

(Determine roles/
responsibilities for
evaluation)



Ms. Mascot was added later (see below) as the local SLP for voice treatment.



Dr. Coach was added later (see below) as the local vocal coach.

Assessment Results

(Summarize key diagnostic
results)

Breathing was normal at time of assessment, but Megan's voice quality was aphonic. A standard head and neck examination revealed nonsignificant findings. Symptom provocation trials were unsuccessful, and flexible videolaryngostroboscopy, laryngeal function studies, and stimulability testing revealed no structural or neurological changes; however, Megan remained aphonic despite multiple therapeutic voice probes. Singing voice specialist assessment was postponed given Megan's aphonic voice quality.

During the mid-morning IPP team briefing, Ms. Clinic, the SLP, discussed medical options with Dr. X, the laryngologist, and they determined that Megan would benefit from a lidocaine rinse procedure to alter sensory feedback during additional trial therapy. Ms. Clinic brought up the possibility of a singing voice specialist consultation after the lidocaine rinse, given Megan's aphonic voice quality. The team members discussed the pros and cons of this approach and collectively agreed to perform a team laryngeal visualization evaluation with the SLP, the laryngologist and the singing voice specialist simultaneously. Ms. Clinic performed flexible laryngoscopy while the Dr. X administered topical lidocaine to the larynx. The endoscope was left in place to provide visual biofeedback to Megan. Ms. Clinic and the singing voice specialist, Mr. Voice, performed a variety of evidence-based therapeutic probes. Megan began demonstrating normal voicing during syllables and during short phrases, and she eventually began demonstrating connected speech. The team employed negative practice so that Megan could alternate old and new voice production. Mr. Voice determined that negative practice also helped Megan with her singing voice at that time.

The IPP team collectively debriefed Megan at the conclusion of her visit. She was diagnosed with muscle tension dysphonia and, likely, paradoxical vocal cord dysfunction. The IPP team members educated Megan on these diagnoses, including teaching her several voice therapy, rescue breathing, and singing voice techniques.

IPP Treatment Plan

(Discuss, reflect, and modify recommendations to develop a coordinated plan)

Because Megan's college is located in a different state from the outpatient voice clinic, the IPP team considered ways to help develop a treatment plan with local professionals in Megan's college town. Once Megan returned home (i.e., to her off-campus apartment), the IPP team was expanded to include **(a)** Ms. Mascot, an SLP whose office was near Megan's off-campus apartment and **(b)** Dr. Coach, her college vocal coach. The assessing SLP, Ms. Clinic, and the singing voice specialist, Mr. Voice, (both of whom worked at the outpatient voice clinic) were selected as team facilitators, given Megan's needs. These two facilitators contacted the local professionals after obtaining a Health Insurance Portability and Accountability Act (HIPAA) release to relay assessment findings and to collectively discuss the best way to provide Megan with the voice care she needed to continue singing. Initially, the Ms. Mascot, local SLP stated that she did not have time to meet with the IPP team over the phone. The assessing SLP, Ms. Clinic, (acting in their role as co-facilitator) spoke privately with Ms. Mascot, local SLP, and together they established a mutually agreeable timeline for IPP phone meetings. Together, the two SLPs and the two singing voice specialists recommended an initial trial of five voice sessions for treatment of muscle tension dysphonia and paradoxical vocal cord dysfunction. The four team members together reflected upon techniques to provoke vocal cord dysfunction symptoms, given that Megan's initial assessment had failed to reproduce the symptoms.

Treatment Outcomes

(Discuss results of treatment)

The Ms. Mascot, local SLP, and Dr. Coach, college vocal coach, are working with Megan, based on the IPP team's initial plan, to continue the improvements established during her initial assessment. These individuals periodically correspond with Ms. Clinic and Mr. Voice (both of whom worked at the outpatient voice clinic) to discuss treatment and report progress. They also relay this information to the laryngologist (at the college). Megan's symptoms have diminished during day-to-day conversation after three treatment sessions with the SLP. However, for 1½ months after the initial evaluation, Megan continues to feel uncomfortable with extensive stage singing. Megan's speaking voice quality has returned to normal limits, and her singing voice and vocal endurance have returned to baseline levels after 1½ months of working with the singing voice specialist.

Team Follow-Up

(Determine meetings & communication plan)

After Megan has participated in five appointments with Ms. Mascot, the local SLP, for muscle tension dysphonia and paradoxical vocal cord dysfunction during the subsequent 2 months, she was discharged. The local SLP sent the discharge summary to the assessing IPP team. The college vocal coach, Dr. Coach, continues to work with Megan on healthy singing and theatre voice production during their regularly scheduled sessions at the college. No further SLP voice treatment was indicated. The IPP team has instructed Megan to contact either her local SLP or the original assessment team should her symptoms recur.

Acknowledgement

ASHA extends its gratitude to the subject matter expert(s) who were involved in the development of the original version of this IPP case:

Kristine Tanner, PhD, CCC-SLP
Special Interest Group 3 (SIG 3): Voice and Upper Airway Disorders

Citations

American Speech-Language-Hearing Association. (n.d.). Team develops plan to treat a music major's muscle tension dysphonia. <https://www.asha.org/practice/ipe-ipp/case-studies/case-study-6/>

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