Disability and Accessibility in the Voice Studio:

An Open Educational Resource



Edited by Katherine Meizel and Anne Slovin

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Introduction

Katherine Meizel and Anne Slovin

Audio of this chapter is available here: https://www.youtube.com/watch?v=F_TRNxYn82Q

The Resource

Considering the estimate (CDC 2024) that up to 28.7% of adults in the U.S. and at least 16% of the global population (WHO 2025) experience some form of disability, it is to be expected that most voice instructors will encounter students within these demographics. Yet disability is not a topic typically addressed in pedagogical coursework, or even in published literature in the field of voice pedagogy. Though plenty of literature in the field of music education addresses disability and classroom music teaching—and pedagogy students read about medical disorders that affect the voice, the impact of movement techniques such as Alexander and Feldenkrais on singing, and the use of vocal music therapy to help those with various disabilities—resources considering disability through the frameworks of voice pedagogy are vanishingly rare. Disabled students and their teachers thus often have nowhere to turn when they become frustrated; even the most compassionate teachers may feel intimidated and unsure of their capacity to work with disabled students, and students may eventually be pushed to give up their career goals, majors, or lessons entirely.

Voice instructors tend to care deeply about their students, and many build flexible practices into their pedagogies to accommodate the needs of each individual singer they teach. However, our contributors as well as previous research (Meizel and Georgakarakou forthcoming) suggest that a greater understanding of disability and how it impacts singing students is still needed. Even with a supportive teacher's best intentions, disabled singers can face barriers to learning and to professional progress. Ableism, the exclusion of people with disabilities, is woven into the structural fabric of music institutions and professions (as it is in virtually every institution and profession), and is closely intertwined with other barriers that impede singers based on race, ethnicity, gender, age, body size, and socioeconomic class. Because the effects of disability are always greater for those who already face such barriers, paying attention to disability accessibility supports a broader inclusivity. Creating accessible spaces,

curricula, and pedagogies of singing will benefit all singers. As our contributor David Salsbery Fry puts it, “disability doesn’t create special needs so much as it illuminates universal needs” (4. Fry).

Interest in disability is beginning to grow among voice instructors, as is evident in conference programs, theses and dissertations (Slovin 2025, Moxness 2024, Smith 2021, Pirzchalski 2021), and a few recent publications (Cravero 2020, Georgakarakou 2024). We have tried to involve as many of the innovators driving this new turn as possible in our resource, both to assemble their important work in one place, and to demonstrate its collective power. The editors and most of our contributors are singers, voice teachers, and/or founders of opera companies who have experience with disability themselves. The few contributors who do not personally identify as disabled/people with disabilities have conducted extensive ethnographic research with those who do. Because of chronic underrepresentation in the creation of educational, economic, and social policies that affect people with disabilities, disability rights movements have adopted the slogan “nothing about us without us”; in other words, it is crucial that every discussion of disability foregrounds the voices of people who live it. Our reading and video entries have been created by individuals currently based in the U.S., Canada, and Greece, and some have long-term experience living with disabilities in other countries; though all materials are presented in English, their perspectives are impacted by varied cultural contexts.

Disability and Accessibility in the Voice Studio emerged from two other projects: first, Katherine Meizel was asked to write a chapter on disability for the *Oxford Handbook of Voice Pedagogy* (Leda Scearce and John Nix, editors; chapter co-authored with Maria Georgakarakou), and in the process discovered how little published writing on the topic there was within the field of voice pedagogy; second, Katherine was introduced to Anne Slovin and her doctoral work on disability-informed pedagogy curriculum at the 2023 Summer Institute in Performance Studies, convened by Masi Asare at Northwestern University. Several months later, Katherine received an Open Educational Resource creation grant through Bowling Green State University, and when Anne joined as co-editor, we invited fifteen paid contributors.

Currently, there is no singular online or published resource with information for singers about disability. We envision this collection as beginning to fill such a need for students and instructors of voice pedagogy, singers, and singing teachers. The contributors sing and teach across art music, musical theater, jazz, and commercial music, and they both demonstrate diverse pedagogical approaches and highlight the consistencies in all

voice work. Our purpose is to: 1) support a larger movement toward the development of accessible pedagogical practices; 2) offer space for disabled singers and voice teachers to share their lived experiences, and their strategies for navigating learning and professional environments that tend to exclude them; and thus 3) to foster the recognition of possibility among disabled voice students and their teachers.

The entries in *Disability and Accessibility in the Voice Studio* represent a range of experiences, styles of writing, and presentation formats. Some are academic in tone, others more personal. For each essay and video, we have also included glossaries for significant terminology that may be unfamiliar[1], and lists of further relevant resources that readers/viewers may be interested in to expand their knowledge of a given topic. You will find a general list of supplementary resources, as well, with items in various formats from both academic and non-academic platforms.

To model accessibility, we have designed the resource to allow options for our contributors and for those who will learn from them. The entire resource is open-access and therefore publicly available online without fee; this is vital to the many disabled and nondisabled students, teachers, and singers who cannot afford the typical cost of textbooks—another important mode of accessibility. The materials include both written essays and videos, to offer choices to those who prefer one medium over the other, or a mix. These essays and videos are accompanied by:

- audio recordings of the essays[2] for those who prefer a human voice to a screen-reader, and for those who learn better through listening
- alt-text for all images in the essays
- captioning for the videos, to support those with auditory or auditory-processing needs.
- separate transcripts (with and without timing labels) for the videos, to allow the use of screen-readers and to provide a further option to those who need to read or process text at a pace not supported by captioning.
- self-descriptions by presenters in the videos
- a PowerPoint file with Ruth Debrot's video, to allow screen-reading of the text given on the video's slides. Transcripts for other videos include descriptions of slides.

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1 Jacqueline Ko, Bryn Jimenez, Diane Kolin, Katherine Meizel, and Anne Slovin wrote their own glossaries; the others are compiled by the editors.

2 Audio versions of essays are read by Anne Slovin and Katherine Meizel, with the exception of Jacqueline Ko's essay, which is read by the author.

We acknowledge that even with these options, the resource may still not be fully accessible to some—but we hope that it will be useful to many, and that it will encourage those who use it to expand their own accessibility practices.

Defining Disability and its Models

Disability, as Diane Kolin notes in her chapter (11. Kolin), is defined differently in different contexts. The Americans with Disabilities Act gives this definition:

> An individual with a disability is defined by the ADA as a person who has a physical or mental impairment that substantially limits one or more major life activities, a person who has a history or record of such an impairment, or a person who is perceived by others as having such an impairment. (ADA 2020, from the 2008 version)

The ADA's legal definition focuses on impairment, but also recognizes the significance of public perception ("perceived by others as having such an impairment"); a person—for example, with a congenital facial difference that does not impair them functionally—might not self-identify as disabled, but others might treat them as disabled. The World Health Organization likewise acknowledges the entanglement of the body and the environment in disability:

> Disability is…not just a health problem. It is a complex phenomenon, reflecting the interaction between features of a person's body and features of the society in which he or she [or they] live[s] (WHO 2025)

Performance artist and playwright Neil Marcus saw disability this way:

> Disability is not a "brave struggle" or "courage in the face of adversity." Disability is an art. It is an ingenious way to live. (Marcus 1992, quoted in Barnes 2016)

These definitions from the ADA and the WHO incorporate two primary ways of thinking about disability known as the medical model and the social model. Marcus' represents an individual and artistic interpretation. All of these have a place in the voice studio, but none cannot be relied upon alone.

In medical contexts, disability is often equated to an "impairment," a problem located in the disabled body. This medical model of disability has been integrated into the

framework of vocal pedagogy since the invention of the laryngoscope in the 19th century (Osseo-Asare 2018, Slovin 2025). Anne Slovin suggests that the voice studio is still often seen as a space akin to a medical clinic, where students are meant to be "fixed" (Slovin 2025). In the late 20th century, a different model of disability was put forth by disability rights activists and scholars: a social model that locates the disabling problem not in the body itself, but in social structures and environments that exclude people based on impairments and perceived impairments (Davidson 2006, 119; Shakespeare 2006, 198). In this model, people who use wheelchairs are understood as being disabled by the persistence of buildings without ramps, or consistently functioning elevators, and by pervasive negative, agency-denying public thinking about wheelchair use (for example, language such as "she's wheelchair-bound" rather than "she uses a wheelchair"). Short-statured people are disabled by an environment built entirely for those of average height, and by the misperception that they are not capable, or that they are suited to exist publicly only in the entertainment field (and tend to be offered roles as fantasy figures such as *Wizard of Oz* Munchkins or leprechauns, at that). In the social model of disability, a voice studio can be disabling as an environmental and pedagogical space if a teacher doesn't take accessibility into account.

Though the medical and social models are acknowledged in the 21st century to be overlapping and insufficient to encompass the truly wide variety of disability experiences (Shakespeare 2006, Wendell 2006), all of these are useful in considering the history and present of voice pedagogy, and how teachers can cultivate inclusivity. Ultimately, we hope that our resource will help voice teachers support their students in achieving Marcus' understanding of disability—as an art, as an ingenious way to live.

It is important to note that our essays and videos represent the experiences of individuals, and not of disabled people in general, or even of all people with a specific disability. Though some experiences are shared among people with disabilities, disability is also diverse and heterogeneous. People who have similar disabilities may not live or feel them in the same way, so teachers can never assume that one blind student, for example, will need the same accommodations as another. Many people have multiple disabilities that shape their experience, progressive disabilities (see 11. Kolin) that change over time, or dynamic disabilities that change constantly.

To accommodate such diversity, the presentation of information across multiple modes in *Disability and Accessibility in the Voice Studio* follows the spirit of Universal Design for Learning, an educational framework developed by the nonprofit organization CAST (formerly the Center for Applied Special Technology, led by David H. Rose). Universal

Design for Learning (UDL) is rooted in education and neuroscience research, and informed by developmental psychology and inclusive architectural design. It suggests that, rather than preparing separate accommodations for individual students with "special needs," a teacher can design a space and a curriculum that supports multiple diverse learning needs at once, incorporating options for all students to choose from. It is then accessible to the broadest possible population (see 1. Meizel, and 2. Moxness, in this resource for further information).

Use in the Voice Pedagogy Classroom

Most singers who eventually become voice teachers first hear about the vocal mechanism and how it operates in the context of a vocal pedagogy class, either in college or in graduate school. These courses, with their focus on the physical body of the singer, are ideally situated to introduce aspiring voice teachers to the diversity of students they may encounter—including those with disabilities. This resource offers a wide variety of content for voice pedagogy instructors to use in their undergraduate and graduate courses. While a pedagogy class might use the entire collection, it can alternatively offer a set of resources from which instructors and/or students might select several of particular interest to them.

As previously mentioned, while there are many disabled musicians, mentions of disability in music coursework, and voice pedagogy in particular, are extremely rare. Weaving essays and videos from this collection throughout a voice pedagogy syllabus, or offering students multiple options to respond to, can serve to emphasize the frequency of disability and chronic illness. For students who do not currently identify as disabled, representation of disability in the classroom can open their eyes to a different experience and suggest to them best practices for teaching all singers, not just disabled singers. As in the example of the curb-cut effect (Blackwell 2017), many of the ideas and strategies presented in this resource can be beneficial to all students, regardless of how they identify. Pedagogy students who encounter these ideas early in their education are more likely to be creative, flexible and empathetic teachers from the outset of their careers, instead of learning these skills on the fly.

Above all, this volume provides representation of disabled singing bodies that is currently missing from most voice pedagogy curricula. As Jeanine Tesori put it in her Tony Award acceptance speech, "You have to see it to be it" (Tesori in Clement 2015). If disabled singers never see themselves represented in their coursework, it may be difficult for them to see where they fit into their chosen field. Including disability

in collegiate voice pedagogy classes could go a long way to improving the pipeline problem from music academia to the performing industry, where visibly disabled bodies are still so rarely seen onstage that disabled performers often self-select away from high-level training. Broadway has seen small steps forward in this regard, including Ali Stroker's Tony Award-winning turn as Ado Annie in *Oklahoma!* and Jenna Bainbridge's current tenure as Nessarose in *Wicked*. In 2023, *How to Dance in Ohio* featured a cast of openly neurodivergent performers telling the story of autistic teenagers attending a high school dance. This is less common on the opera stage; while several of our contributors (15. Jacqueline Ko, 16. Greg Moomjy, and 17. Danielle Wright) have established opera companies based on inclusivity and "disability creativity" (Newirth and Moomjy 2023), this representation remains rare in mainstream opera.

Increasing representation and discussion of disability in voice pedagogy courses shows disabled students that it is possible for them to perform at a high level, while also producing new educators with an understanding of what disabled students may need to succeed—and move forward in performing careers. This resource will be a valuable tool for instructors seeking to expand not only their curriculum, but also opportunities for disabled singers in their programs.

Organization of the Resource

In the first section of *Disability and Accessibility in the Voice Studio*, "Studio Culture and Overall Strategies for Accessibility," Katherine Meizel (1) puts forth an overview of teaching practices that implement UDL, and in the following chapter, Adam Moxness (2) introduces a beautifully systematic approach to UDL in the voice studio. Ty Chiko (3) writes about the importance and challenges of empathy as part of establishing an inclusive studio, David Salsbery Fry (4) considers the impact of internalized ableism on singers with disabilities, and the uses of trauma-informed pedagogy (TIP) to mitigate its effects. Finally, Emily Jaworski Koriath's video (5) discusses strategies to support students' emotional growth and wellbeing.

The entries in our second section, "Teaching Students with Sensory and Neurological Disabilities," are contributed by three authors with their own experiences of such disabilities, plus one who conducted research with a student: Maria Georgakarakou (6), a blind singer, scholar, and instructor, writes about common issues and the strategies she has developed teaching blind students; Erin Erickson (7), a Deaf singer and instructor, breaks down the processes that can be interrupted in singing students with hearing loss, and suggests adaptive methods; Heidi Moss Erickson (8), in both

essay and video formats, recounts her own journey with facial nerve palsy and the technical insights she gained through careful investigation; Ruth Debrot (9) details her collaborative work to find the best learning practices for a student of commercial singing who had experienced a stroke.

The third section, “Temporality and Change: Teaching Students with Chronic Illness, Progressive Disability, and Vocal Injury,” focuses on situations that require especial flexibility in the studio—for students whose disabilities are long-term and/or progressive, or temporary, but all with characteristics that highlight inconsistency and change over time. Molly Noori (10) explores how chronic, especially “invisible” illness (not immediately apparent to outsiders) can affect a voice student’s development, and how teachers can improve their success. Diane Kolin (11) writes about learning to sing while experiencing progressive disability, shifting from standing to crutches to wheelchair use, and about how she has helped her students who encounter similar challenges. Marita Stryker (12), in a pair of videos, details her pivotal research among singing students with the increasingly common diagnoses of hypermobile Ehlers-Danlos Syndrome, Hypermobility Spectrum Disorders, and Postural Orthostatic Tachycardia Syndrome. Bryn Jimenez (13) writes about her complex experience with another common but difficult diagnosis affecting many singers—asthma. And Anne Slovin (14) reframes vocal fold use injuries as disabilities that need destigmatizing, and that both should and can be accommodated in the voice studio.

The final section, “Voices From the Opera Industry: Creating Disability-Affirming Opera,” foregrounds contributions by three singers who have also been instrumental in the establishment of accessible opera companies. Jacqueline Ko (15), co-founder of Opera Mariposa in Canada, relates her own story and her inspiration for creating an accessible opera company, and describes practical measures that opera companies and stage productions can take to ensure the safety of their singers. Greg Moomjy (16), co-founder and artistic director of the disability-affirmative company Opera Praktikos in New York, underlines the importance of disability representation onstage, and presents a set of essential ways the opera industry can build a better performance world. Finally, the essay by Danielle Wright (17), founder of Detroit’s Opera MODO, concentrates first on how, as a trans and nonbinary disabled singer, they have faced gaslighting in medical and professional contexts; then, they offer ideas toward improving accessibility and justice in the opera world.

Conclusion

Disability and Accessibility in the Voice Studio is neither a definitive nor an exhaustive resource of everything teachers and singers might need to know about teaching students with disabilities. Rather, we hope that our collection will open doors to further conversation about inclusivity and the incredible diversity of singing bodies. This discussion is unfortunately still widely stigmatized, and singers who speak out or publish on the topic of disability run the risk of being tokenized or blacklisted. Some have found that their disability activism has supplanted their artistry as their primary identity when they have advocated for themselves or others. We are deeply grateful to our contributors for their vulnerability and generosity in this effort to open hearts and minds, to sound the call for accessible, inclusive voice teaching.

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I. Studio Culture and Overall Strategies for Accessibility

1. An Introduction to Universal Design for the Voice Studio

Katherine Meizel

Audio of this chapter is available here: https://www.youtube.com/watch?v=qvDnD7FPhpM

As a student and then teacher with Postural Orthostatic Tachycardia Syndrome (POTS) and Ehlers-Danlos Syndrome Hypermobility Type (hEDS), my experiences with disability follow fairly closely those of the singers featured in Marita Stryker's critically important work in this resource (see 12. Stryker). However, I only obtained those diagnoses at the ages of 27 and 40, respectively: the POTS diagnosis during my D.M.A. program, the process of finding effective treatment started too late to salvage my goals (even though I finished the degree), and the other when I was already on the tenure track as an ethnomusicologist. I had grown up before the Americans with Disabilities Act, so I knew nothing about disability or accommodations, having spent most of my life just trying to push through undiagnosed pain, illness, and weakness, banging my aching head against ever-mounting barriers and some shocking medical neglect. Sometimes my voice teachers were patient with me, and sometimes they were frustrated and harsh, or dismissive. Without any accommodations, my performance capabilities faded, and I was fortunate to find another, if academic, way to live in music. I kept teaching voice as long as I could, until my work in ethnomusicology began to leave me with little free time.

I have needed a few work accommodations, but I did not truly allow myself to identify as disabled, or disclose that identity, until I was tenured and had begun ethnomusicology research and teaching that crossed into disability studies. Although of course I have never asked for or required such information from students, around that time more and more began to tell me about their own POTS and EDS diagnoses, many others disclosed their experiences with ADHD and Autism Spectrum Disorder, and an honestly devastating number discussed a range of mental health difficulties. Those who were singers related the problems they encountered in their voice lessons, the lack of accommodations provided even with registration at the university Accessibility Services office, and their struggle to progress despite their teachers' generally compassionate attitudes. One semester, fully a third of my students disclosed disabilities. And I realized that, other than notices from Accessibility Services to offer longer exam times, quiet spaces, or notetaking to individual students, I had never been exposed to any disability-related teaching techniques. So, I got to work.

As a result, and especially (like many of my colleagues) motivated by the trauma my students were living with during the COVID-19 pandemic, I have devoted considerable effort to the application of the gold-standard disability framework in education known as Universal Design for Learning (UDL). It now underlies all of my course plans. And when I was asked to write a chapter on teaching singers with disabilities (Meizel and Georgakarakou forthcoming) for an edited collection, the unexpected foray back into voice pedagogy compelled me to reconfigure my thinking in the studio, too.

Universal Design for Learning

The primary tenet of UDL, developed by the educational non-profit CAST, is to provide multiple options for learners, so that the various needs of as many as possible will be met. It is common for post-secondary instructors to teach for an imagined majority of students who share the same needs, while separately accommodating a few outlying individuals with other needs. However, rather than allowing for the diverse realities of experience and information-processing in any classroom, this has the unintended effect of creating an exclusionary environment in which those with disabilities and differences are relegated to the margins. UDL asks instructors, instead, to build an inclusive pedagogical plan, and to recognize that, as our contributor David Salsbery Fry argues, “disability doesn’t create special needs so much as it illuminates universal needs” (see 4. Fry).

CAST’s current UDL site states, “The goal of UDL is learner agency that is purposeful & reflective, resourceful & authentic, strategic & action-oriented” (CAST 2024, my emphasis). Many voice instructors already employ pedagogies that at least partly encompass these ideals, and I suggest leaning into those trails already blazed, as well as extending the impulse further. For a beautifully systematic approach to UDL in the studio, see Adam Moxness’ video and essay in this resource. Here, I will supply concrete examples of studio practices that support each principle of Universal Design. These are by no means the only viable ways for voice teachers to implement UDL, but I hope they provide some initial guidance to those interested in inclusive pedagogy.

The 2018 UDL guidelines encourage the development of options across the following areas and modes of learning: 1) recruiting interest; 2) perception; 3) sustaining effort and persistence; 4) language and symbols; 5) self-regulation; 6) physical action; 7) expression and communication; 8) comprehension; and 9) executive functions.

Universal Design itself is a living thing, though. CAST published a new set of guidelines in late 2024, but because I began thinking about UDL in the voice studio prior to that, mostly relying on the 2018 language instead, I have found that some of that earlier publication more neatly fits voice pedagogy. For example, “physical action” is perhaps more directly relevant for singing than the 2024 replacement, “interaction.” On the other hand, “recruiting interest’ was replaced with “welcoming interest and identities” in 2024, and “comprehension” was replaced with “building knowledge,” both changes I appreciate. The 2024 version also replaces “executive functions” with “strategy development,” the latter of which I also prefer.

Because of this mix, the ideas summarized below represent a fusion of the categories in the 2018 version and the 2024 version. Options 1, 8, and 9 point to the more recent UDL guidelines, and the others draw from the 2018 categories. However, every teacher should adopt and adapt whichever concepts they find most useful. (Links to the 2018 and 2024 guidelines can be found in the “works cited” section in this essay, and on the “further resources” page).

1. Options for Welcoming Interest and Identities (choice and autonomy)

“To spark engagement in the learning process, learners’ unique interests as well as their unique identities, including intersecting dimensions such as race/ethnicity, culture, gender, language, and disability, must be recognized, sustained, and valued.” (“Welcoming Interests,” CAST 2024).

Physical Environment:

One of the most important ways to welcome disabled students is to create a physically accessible studio space, or to find and secure another space.

- Getting into and out of the studio: Let all students know whether there are stairs, ramps, or consistently functioning elevators leading to your studio, and whether there is enough space for wheelchairs to move and fully turn around in your studio. If not, find another space for those who need it, or consider virtual lessons.
- Seating: Provide seating inside your studio for students who cannot stand for the duration of their lesson, and seating outside the studio for those who have to wait for their lesson. Everyone in the studio should be informed that they can sit when they need to, without explanation.

- Limit stimuli: Consider limiting the stimuli in your studio, such as bright or florescent lights and extra visual or aural distractions. Consider having multiple lighting options available. Avoid, and ask students to avoid, wearing strong scents.
- Virtual lessons: While in-person lessons have long been standard, consider offering online lessons as an option (see 9. Debrot). Some apps, such as FarPlay (see resource list for this essay), can even allow simultaneous music-making on both sides of the screen, with a latency under 40 ms.

Langauge and Discourse about Disability:

- Normalize discussion of disability (see 10. Noori): Educate students and colleagues about disability at departmental or studio meetings, and in pedagogy courses. Consider disclosing your own disabilities if you feel safe to do so.
- Ask questions: You don't need to ask students about specific diagnoses or disabilities, but you can ask all students entering your studio what accommodations they might need, regardless of disability status. Ask them again regularly throughout their time with you.
- Believe your students: Universities tend to require written proof of a diagnosis for officially approved accommodations, but not all students have affordable or local access to doctors and diagnoses, and many diagnoses take years to obtain. Trust your students to tell you the truth, even if they don't have documentation from Accessibility Services.
- Terminology preferences: If a student discusses their disability with you, ask whether they prefer person-first language ("person with a disability") or disability-first language that foregrounds identity ("disabled person").

Repertoire:

- Agency in repertoire choice: Teachers already often encourage students to choose appropriate repertoire they love; this can be effective for students who are struggling to engage with assigned repertoire for any reason, including disability.
- Disability representation: Introduce students to music written by disabled composers, and recordings by disabled singers.

2. Options for Perception (conveying information)

Multiple modalities for delivering information:

- Written materials: Be sure that any written material you distribute is available in multiple and accessible forms (making the text screen-reader accessible, and/or using a large font, using a dyslexia-friendly sans serif font, including image descriptions.)
- Visual aids: For students who benefit from visual or textual aids, consider including visual/text aids such as PowerPoint and allowing students to take notes or photographs of the slides. High contrast visuals such as dark text on white backgrounds or white text on dark backgrounds can be more accessible.
- Kinesthetic techniques are popular in voice pedagogy, as they allow students to sense what is happening during a physiological process. Singing through a straw, holding a model of a skeleton or larynx, or, if a student is comfortable, feeling their teacher's jaw or ribcage, for example, as the teacher demonstrates, can be helpful.
- Listening: Western art music institutions often discourage learning by ear, privileging reading music notation instead. Teachers can help voice students with learning to read music, but if a student learns best by ear, it's important to reassure them that they are still using an important skill and ability when they do. Most (though not all) music cultures in the world learn by ear, and singers, who often develop excellent aural skills, should not be shamed for it.
- Audiation (see also 8. Moss Erickson): Hearing sound in the head before or during phonation can be a useful strategy—saying a tongue-twister trips us up because we are focusing on the feeling of making the words and not the goal or the process. If we audiate while we are saying those words, the muscles can better do what we intend. This can also transfer to singing.

Encourage Student Responses:

- Writing and art: Some students may benefit from writing or drawing as a response to segments of their lesson.
- Highlighting scores: Many students use a highlighter on their scores to remind them of musical elements or important information about lyrics and meaning.

- Elicit responses to recordings: While recording lessons is common, it may also help students to go through portions of the recording with their teacher and respond to what they see or hear or what they remember experiencing, and ask questions about it.

3. Options for Physical Action (response methods, tools/technologies)

Movement:

- Agency: Allow students to move when they need to—many neurodivergent students, especially, need to move or stim (repetitive movement for self-regulation), sometimes in particular ways.
- Fidgeting can help focus: Allow the use of fidget toys or even knitting or crocheting (if feasible) when needed.
- Movement as a tool: Consider incorporating tapping, conducting, stomping, etc. into your stable of techniques. Use movement as a tool, adapted for students with different needs, including sensory needs and motor capabilities.

Touch:

- Ask and be aware of students' preferences regarding touch. Always ask for consent.

Tools and Technologies:

- Students should be allowed to use any aids they need, such as tablets, chairs, crutches, wheelchairs, cushions, etc. Some can be used directly in supportive ways as well (see 11. Kolin).

4. Options for Sustaining Effort and Persistence (varying demands and resources, fostering collaboration and community)

Physical Options

- Position: Students should be allowed to stand, sit, or lie down, depending on which position helps them. They should also be allowed to use any aids they need, such as chairs, crutches, wheelchairs, cushions, etc. (see above, and also 11. Kolin).

Collaboration:

- Working together: Some students might benefit from practicing together in pairs, or learning music in a group, if feasible. Options might include learning duets and ensembles, collectively researching the background to their assigned repertoire, etc.

5. Options for Language and Symbols (clarification of vocabulary, symbols)

Format:

- Braille: If a student needs braille music, help them request it from your university and/or find resources (see General Resources).
- Signing or written formats for d/Deaf and Hard of Hearing students: If a student needs a sign language interpreter, a transcript of videos, etc., work with your school's Accessibility Services office to provide it.

Information Delivery:

- Glossary: Provide students with a glossary of significant terms and/or music notation symbols.
- Repetition: Consider repeating important information throughout a lesson, and have students repeat it as well.

6. Options for Expression and Communication (many kinds of communication)

Communication:

- Not just speaking: Spoken communication is not the only kind voice teachers use: gesture and demonstration of technique are already key in the studio, but may need to be emphasized or adapted for some students.
- Other formats: Even if a student is able to sing, speaking can sometimes be difficult due to speech disorders or neurodivergences. Written or typed communication should be allowed when needed.

7. Options for Self-Regulation (facilitate coping skills, develop self-assessment)

Feedback and self-assessment:

- Metacognitive strategies that foreground dialogue can be useful (see 9. Debrot)
- Student input and self-assessment can be elicited in a number of ways:
  - » What are the student's goals? Check in regularly to ask this question again, and to ask how they feel about their progress.
  - » As noted above, a teacher and student may listen or watch the recording of a lesson or practice session together, and the student can respond to what they hear or see, and recall what they experienced.

8. Options for Building Knowledge (highlight patterns, cultivate multiple ways of knowing and making meaning)

- Level of detail: Some students do well processing and implementing detail, while others need to more consistently focus on basics.
- Vocal knowledge: Voice teachers already understand the value of using multiple systems of creating vocal knowledge. It's common to refer to anatomy and scientific frameworks of voice, and to the visual modes of spectrography or other sound-analysis tools. Equally widespread are the many ways of imagining sound and feeling in singing—for example, visualizing colors or motion, etc. Some students benefit more from imagery, others from understanding the body; still others use both.

9. Options for Strategy Development (set meaningful goals, anticipate and plan for challenges, etc.)

Goals:

- Develop and articulate long-term learning goals along with students: for a semester, for a year, or further in the future.
- Develop and articulate short-term goals, such as goals for a single lesson or performance.

Lesson Plans:

- Use scaffolding techniques, dividing the learning process into structured segments.
- Outlines: Some students benefit from being given an outline or lesson plan before the lesson begins.

Conclusion

In recent years, I've reflected on the struggles of my time as a student, in terms of both what helped me and what could have helped me, if I and my teachers had known more than we did. A teacher licensed in Alexander technique helped me learn how pain led to muscle tension and affected the voice. Another let me sit for lessons and recitals. And one gave me one of the most valuable pieces of advice I ever received: when I was frustrated that singing didn't feel the same from practice to practice or from one lesson to the next due to my condition, she said that the voice is different every day for every singer, and if I consistently focused on the basics of production (posture, breath, vowel) rather than muscular details or how the sound felt, I could achieve a successful sound. But these scraps of progress were eventually overpowered by the conventional expectations I attempted to meet as a conservatory and later doctoral student, as well as by the general lack of accommodations available. I think, in retrospect, that I might have been able to keep singing and even meet my modest career goals if we'd all had more understanding about disability, its contexts, and the strategic use of inclusive pedagogical practices.

Overall, I argue that in the voice studio, the most crucial practices in support of Universal Design include:

1. the establishment of an accessible physical environment,
2. the normalization of disability in discourse and curriculum,
3. the encouragement of student agency through dialogic techniques, and
4. clear communication of goals and planning

Contributors to *Disability and Accessibility in the Voice Studio* repeatedly stress the importance of disability inclusivity in pedagogy, and I will do so, as well. Singing is a complex activity, deeply impacted not only by physical, psychological, and learning differences, but also by environmental and educational exclusion, and the internalized

ableism derived from that exclusion (see 4. Fry). But because every singer's needs are individual and invariably variable, they can all benefit from a teacher willing to provide options in environment, method, and communication. In applying UDL, teachers have the opportunity to build a voice studio that will support successful vocal and musical growth—not only in students with disabilities, but in all their students.

Glossary

Ehlers-Danlos Syndrome: a set of connective tissue disorders that can impact multiple systems throughout the body.

Modalities: the ways in which something exists or is done, including methods, procedures, and sensory perceptions. A general and helpful tool when considering multiple modalities is to think through the five senses: sight, sound, smell, taste, and touch.

POTS: Postural Orthostatic Tachycardia Syndrome, in which the heart rate increases inappropriately when a person is upright.

Scaffolding: an active implementation of varying levels of support in accordance with student needs. It seeks to remove guidance as the student gains more competence and understanding in a goal or task. These "graduated levels" progress a student forward.

UDL: Universal Design for Learning, a system designed by CAST to make classrooms accessible for as many students with individual needs as possible.

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Further Resources

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Author Biography

Katherine Meizel is a Professor of Ethnomusicology at Bowling Green State University in Ohio. She holds a Ph.D. in ethnomusicology and a D.M.A., M.M., and B.M. in vocal performance, and taught singing for over 20 years. Her book *Multivocality: Singing on the Borders of Identity* (Oxford University Press) was published in early 2020 she also co-edited *The Oxford Handbook of Voice Studies* with Nina Sun Eidsheim (2019), and her monograph *Idolized: Music, Media, and Identity in American Idol* (Indiana University Press) was published in 2011. Additionally, with the nonprofit label Little Village Foundation, she co-produced the album *Raise Your Voice: The Sound of Student Protest* to document the 2018 protests against gun violence. Her writing has also appeared in public venues such as Slate, NPR.org, The New Republic, and The Conversation. Her first musical, *I'll Hear You* (written with Heath Diehl), was a finalist in the New Musical Project competition 2024 and in the MusicalWriters.com Academy Reading Series 2023.

2. Universal Design for Voice Teaching (UDVT): A Singer-Led, Diversity Affirming, Accessibility and Support-Needs Based Resource Guide

Adam Moxness

Audio of this chapter is available here: https://youtu.be/YYyRMR61Yx0?si=RjBNzJngpNXCxZOR



** See the end of this chapter for a supplementary video*

Main Ideas

- Scaffolding Instruction
- Providing Multiple Modalities
- Building Executive Function Skills

5-Step Action Plan

- Determine the goal
- Identify the barriers
- Understand the Assessment
- Navigate an Appropriate Method
- Provide Supportive Material

The Singer Cues

Engagement	Representation	Action & Expression
I choose this	*I identify this*	*I do it like this*
I can do this	*I understand this*	*I express it like this*
I own this	*I connect this to that*	*I progress like this*

Let's Make It UDVT!*

Engagement: The "Why of Learning"

Singer Cue - "I Choose This"

Welcoming Interests and Identities (Access)

- DESIGN lesson plans in collaboration with each singer
- SELECT repertoire assignments according to the interests of each singer
- FOSTER joy and playfulness in the studio
- ORGANIZE studio space to remove unnecessary distractions

Explore: UDL Guidelines to Welcoming Interests and Identities

Singer Cue - "I Can Do This"

Sustaining Effort and Persistence (Build and Support)

- PRIORITIZE short-term strategies towards long-term goals using individual practice journals
- ADJUST degrees of challenge with exercise and repertoire difficulty
- MEET with singers regularly in studio classes
- PROMOTE process, effort, and improvement above evaluation and competition
- DELIVER feedback focused on actionable steps and practical improvement

Explore: UDL Guidelines to Sustaining Effort and Persistence

Singer Cue - “I Own This”

Emotional Capacity (Internalize and Executive Function)

- SCAFFOLD goal-setting that celebrates short-term achievements towards long-term goals
- CULTIVATE active listening in partner and ensemble work
- SUPPORT singer emotions with restorative practices and refer out to student services when appropriate
- CREATE opportunities for singers to self-evaluate and collectively reflect

Explore: UDL Guidelines to Emotional Capacity

Representation: The “What” of Learning

Singer Cue - “I Identify This”

Perception (Access)

- APPROACH learning from the perspective of each singer’s identity and learning preferences
- INCLUDE visual image supports to verbal approaches
- INCLUDE listening and speaking supports to visual approaches

Explore: UDL Guidelines to Perception

Singer Cue - “ I Understand This”

Language & Symbols (Build and Support)

- CREATE a vocabulary list with each singer of commonly used terms
- CONNECT musical concepts together such as notation, rhythm, pitch, and lyrics
- USE accessible, inclusive, and affirming language
- TRANSLATE repertoire into singer vernacular through cultural competence and respect
- GIVE images and videos to words and sounds

Explore: UDL Guidelines to Language & Symbols

Singer Cue - “I Connect This to That”

Building Knowledge (Internalize and Executive Function)

- CONNECT learned exercises and technical skills with new repertoire
- SIMPLIFY complex ideas into systematic structures
- ENCOURAGE exploration through varied techniques
- LINK cross-curricular information into lessons

Explore: UDL Guidelines to Building Knowledge

Action & Expression: The “How” of Learning

Singer Cue - “I Do It Like This”

Interaction (Access)

- ESTABLISH options for physical movement
- USE interactive, assistive technologies for recorded lessons

Explore: UDL Guidelines to Interaction

Singer Cue - “I Express It Like This”

Expression and Communication (Build and Support)

- CREATE a channel for feedback outside of lessons
- OFFER multiple options for performance opportunities
- DEVELOP performance opportunities appropriate to singer support needs
- ADDRESS creative biases and remove when appropriate

Explore: UDL Guidelines to Expression and Communication

Singer Cue - “I Progress Like This”

Strategy Development (Internalize and Executive Function)

- MENTOR singers in appropriate goal setting
- PROVIDE prompts for singers to “stop and think” or “show and explain”
- FACILITATE singers keeping an exercise and resource log
- PRESENT opportunities for singers to monitor progress
- EMBRACE each singer’s lived experience

Explore: UDL Guidelines to Strategy Development

Glossary

executive Functions: the mental processes that enable students to plan, focus attention, remember instructions, and juggle multiple tasks successfully. Students with all different ways of being experience varying levels of executive functioning skills that thus require varying levels of academic support.

modalities: the ways in which something exists or is done, including methods, procedures, and sensory perceptions. A general and helpful tool when considering multiple modalities is to think through the five senses: sight, sound, smell, taste, and touch.

scaffolding: an active implementation of varying levels of support in accordance with student needs. It seeks to remove guidance as the student gains more competence and understanding in a goal or task. These “graduated levels” progress a student forward.

Supplementary Video



Click the image above to view the video or click here: https://www.youtube.com/watch?v=h8XCr58rMX8

Further Resources

Cravero, Ann. 2020. “Exceptional Students in the Voice Studio: Understanding and Training Students with Asperger’s Syndrome[1] .” *Journal of Singing* 77(2): 159-173.

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[1] Editor’s Note: “Asperger’s Syndrome” is no longer included in the A*merican Psychiatric Association’s Diagnostic and Statistical Manual of Mental Disorders*. The most recent revision, the 2022 DSM-5-TR (Text Revision) uses the diagnosis “Autism Spectrum Disorder” to encompass all manifestations of Autism. (Some people who have previously received a diagnosis of Asperger’s Syndrome still prefer to use that terminology, however.)

Author Biography

Adam Moxness is Assistant Professor of Theatre and Musical Theatre Voice at Viterbo University in La Crosse, WI. He holds an M.F.A. in Musical Theatre Vocal Pedagogy from Boston Conservatory, where he initiated research on creating a student-led, accessibility-based, and neurodiversity-affirming vocal pedagogy. Dedicated to fostering inclusive voice training, Adam is developing Universal Design for Voice Teaching (UDVT), a resource aimed at making voice education accessible for all. His UDVT research has gained national recognition through presentations at institutions and organizations such as Berklee College of Music, the Pan American Vocology Association, and the National Association of Teachers of Singing. Beyond teaching and research, Adam is an accomplished performer. Recent roles include Jimmy Ray in *Bright Star,* Jervis in *Daddy Long Legs*, and Bert in *Mary Poppins.* He has also originated roles in productions such as *The Callback* and *Vaudeville Fiasco*.

3. Empathy in the Studio: Creating Inclusive Spaces for Disability in Vocal Pedagogy

Dr. Ty Chiko

Audio of this chapter is available here: https://www.youtube.com/watch?v=vdJWzSy7imQ

My grandmother made soup and fresh baked bread once a week.

No one sat at the dining table to eat it.

We got our meals and dispersed like smoke in the wind.

Stomachs were filled, but hearts and minds were malnourished.
Conversations short, words unfinished,
As we retreated to corners, in front of screens,
While the warmth of her kitchen slowly faded.

Her hands, worn, yet steady, cleared the table.
The silence that followed was loudest of all.
She'd hum a soft tune, in communion with her God.
Perhaps she knew, better than we,
That some meals are more than just food.

Who is Sitting at The Table?

I believe some of life's most important decisions happen at "the table". This table is made up of people who engage in conversation that inspires curiosity around topics that aren't always universally accepted. It is similar to the dining table at home where there is always a seat for everyone who is present.

In the context of Diversity, Equity, and Inclusion (DEI), the table is a place of communion, where people go to be challenged, learn, grow, and discover something new about themselves and others. It is not a place to express one's biased view on a particular subject. Instead, it is grounded in empathy, recognizing that each person's lived experience is unique and complex. At the table, there is openness to understanding, free from preconceived notions and assumptions.

Growing up in the Bahamas, there was no table like this in my household. Whenever it was time for a meal, each person plated their food and dined in an area of the house that stifled conversation, often in front of the television. Looking back, I recognize that my family missed out on having a table for dialogue, whether social, political, or cultural. Instead, opportunities for fruitful conversation were replaced with a battle of who could win the argument by shouting the loudest, infertile gossip, bias, and apathy. These were my family's default modes of speaking with and about one another. This breakdown in communication limited our chances to connect, which stemmed from the perpetuation of unaddressed and unhealed generational trauma.

In much the same way, society's flawed understanding of disability inclusivity stems from a lack of open dialogue and representation resulting in a sort of collective trauma that affects not only those living with disabilities but also those who interact with the community. The individuals who should be at the table when discussing matters surrounding disability are often absent from both the conversation and the decision making. Instead, they are forced to adapt to systems that position disability as an afterthought. Setting a seat at the table for those who live with disabilities amongst those who are nondisabled is what contributes to our collective growth.

Theater-maker and co-founder of Sojourn Theatre Michael Rohd shares that "around the country, as leaders and influencers work to build coalitions for arts-based community development projects, often absent are people most impacted by the issues being addressed; and very often these absent participants are people of color." (Rohd 2012). As a black man and an amputee, I expand on this, noting that those who are often left out are not only people of color, but also people who live with disabilities.

This dynamic is evident in the private voice studio where instructors often operate using traditional pedagogical models that overlook and sometimes ignore the perspectives of students who live with disabilities. These teachers may refuse to work with students who live with disabilities because they may not have the necessary training or resources to accommodate various learning styles or physical requirements. They may also

refuse this work because they lack the desire and empathy to do so. This contributes to students with disabilities feeling left out, marginalized, or discouraged from participating in voice lessons and music-making altogether. It highlights that, rather than a lack of talent, it is the absence of resources and lack of support to ensure equal opportunities and equitable learning that prevents students with disabilities from participating in the arts.

On the other hand, if the studio instructor believes that all student voices should be heard and valued, then the students themselves must be provided a seat at the table so that they are empowered to advocate for their needs.

Empathy in The Voice Studio

In private voice studios, teachers who aim to be more inclusive of people with disabilities must consider the work that goes beyond the lessons themselves, which I refer to as “the table work.” In musical theatre, table work is at the heart of the creative process, where the cast and creative team come together to workshop the musical score through careful discussion, analysis and the sharing of ideas, with an ultimate goal of implementing a strong foundation for a successful show. Creating inclusive spaces for people with disabilities requires the same level of attention and care.

At the table, teachers should engage in key conversations about how best to support their students, and consider the following questions:

- **Are they using language and terminology that is inclusive?** For example, the use of person-first language that emphasizes the person before the disability. Instead of using “a disabled person,” one might consider, “a person living with a disability.” “Tom is a wheelchair user,” would be more appropriate than, “The guy in the wheelchair, his name is Tom.” On the other hand, some people prefer identity-first language (“a disabled person”). Ultimately, the most respectful approach is to ask the student how they prefer to be identified. This honors their autonomy and ensures that they have a voice at the table.
- **Are they learning about accessibility needs of their students and researching teaching methods to accommodate various learning styles?** This might include research into Universal Design for Learning (UDL); a flexible and adaptable educational framework that is used to make learning accessible, fun, and engaging for all students, regardless of their (dis)ability. Instructors might also research ways into how to modify assignments that are

different from the usual methods of knowledge dissemination. For example, NotebookLM; an AI platform powered by Google, converts PDF documents into audio podcasts. This method of learning would provide students with visual impairments, or dyslexia an alternative way to learn. The platform is also equipped with options for the user to create mind maps and study guides to supplement learning. Continuous professional development in the area of UDL would assist the educator tremendously in creating a more inclusive studio space.

- **Are they involved in disability advocacy groups or attending workshops to increase their understanding of people with disabilities?** Many volunteer opportunities are available to teachers to increase their understanding of people living with disabilities. Some examples include Best Buddies International, which supports individuals living with Intellectual and/or Developmental Disabilities (IDD). The Amputee Coalition of America is an additional resource that supports individuals living with limb loss and/or limb difference. Instructors may also attend disability conferences such as Leadership Exchange in Arts and Disability, hosted by the Kennedy Center. These are a few of many organizations that support the wide spectrum of people living with disabilities.

Additionally, teachers should not only be aware of what conversations are being discussed but also who is involved. Are parents, caregivers or colleagues at the table? Most importantly, are students contributing to the discussion about their own learning goals and needs?

Generally, the ways in which one instructs in the voice studio are often shaped by personal and professional biases. If the teacher has never worked closely or engaged with a person living with a disability, their teaching will be limited when they interact with members of that community. This limitation is evident in academic performing arts institutions where, on average, studios are made up of nondisabled artists. How often is a person in a wheelchair, a person who is blind or one who is neurodivergent accepted into a voice performance program, cast in a show, or involved in private voice lessons? If this lack of representation is normalized then one must ask: Why is this happening? What barriers to disability inclusivity are we unintentionally (and sometimes intentionally) reinforcing and how can they be dismantled?

According to Michael Rohd, dismantling barriers begins with better listening. He suggests that when venturing to create a new practice, our work can excel not only

in the quality of expression but through the quality of our listening. He argues, “if we can model better listening, we can accomplish what our civic life desperately needs: a practice that places dialogue ahead of monologue, imagination at the heart of problem-solving, and listening as equally important as expression” (Rohd 2012). For me, dialogue, imagination, and listening all stem from one core value: empathy.

Empathy is defined as having the ability to understand and share the feelings of someone else. To me, empathy goes beyond just understanding how someone feels. It is taking that understanding and improving our actions in response to their feelings and needs. In the private voice studio, once the instructor learns of a student’s disability, whether seen or unseen, they must respond with empathy, ensuring that the student can succeed in achieving mutually agreed-upon goals. However, if the instructor’s methods are grounded in ableism, it reveals a system that has been designed for nondisabled students to thrive while preventing those living with disabilities from having the same opportunities. Therefore, teachers should take a proactive, human-centered approach in how they instruct, starting with their curriculum design. They must set aside rigid systems to accommodate the diverse needs of every student.

Course materials, grading criteria, learning outcomes, and assessments should all be considered when determining how best to serve a diverse group of students. Cultivating this awareness, along with listening and a commitment to collaboration is vital for creating a space that is safe and welcoming.

The Student & The Pedagogy

It is also necessary to consider practical approaches to empathy in the voice studio, particularly the educator’s approach to the technical aspects of vocal pedagogy.

Vocal pedagogy can be broken down into five key areas: cognition (thinking), respiration (breathing), phonation (sounding), resonation (buzzing), and articulation (diction). The larynx, diaphragm, lungs, diction, posture and artistic interpretation are all focal points in the voice studio, with a goal of providing the student with tools to navigate these aspects of their instrument efficiently and healthily.

However, the functions outlined in traditional vocal pedagogy may not be easily attainable for students with disabilities, whether physical, mental and/or emotional, due to biological differences. This traditional pedagogy is limited when addressing the needs of bodies and minds that don’t align with society’s ableist definition of “normal.” Whether

the student has a cleft palate, an amputation or limb difference, cystic fibrosis, or any other condition that affects their access to education, it is essential to offer pedagogical approaches that allows each student to succeed according to their own abilities.

Additionally, adapting the curriculum to promote equitable learning for all students is not about lowering standards or expectations, but about providing the support needed for every student to meet high expectations. Teachers can and should hold all students to high standards, regardless of their ability level, though the pace of learning and the tools used may vary. Offering students the resources and support they need to achieve their goals, while allowing them the autonomy to define what success means for themselves is both equitable and empathetic. Some of these resources may include assistive devices, flexible and additional time to complete assignments, or a classroom aide. These shared goals can only be achieved through clear communication established at the onset of the collaboration.

Empathy Fatigue

It is important to note that performing this empathetic work has its share of challenges. “Empathy fatigue” refers to the exhaustion that a person might experience when their profession requires them to regularly provide emotional and empathetic support to someone else. It is common in fields like education, medicine, and therapy.

Fortunately, there are tools that can assist the educator in managing this emotional labor and avoid burnout:

1. **Practice Self-Care:**

   You can’t pour from an empty cup. Practicing self-care can take many forms; from diet and exercise to journaling and meditation, and socializing with friends.

2. **Set Clear Boundaries:**

   Maintain a healthy balance between professional and private life. Effective time management can help avoid schedule conflicts and overcommitments.

3. **Be in Community:**

   Communication is key. Work closely with parties responsible for the students’ education—colleagues, caregivers, parents, and other stakeholders—so that the learning does not fall completely on the instructor.

4. **Advocate for Support:**

   Advocate for institutional support to ensure that the workload is shared, whether through additional personnel or financial assistance. For example, learning specialists can support students with dyslexia who may need extra assistance when working with vocal repertoire. Additionally, institutional funding can facilitate the purchasing of music learning apps like Appcompanist, which supports students in their practice. This mobile app provides options to manipulate tempi, key, pitch matching and other essential elements of vocal music. Tools like these empower students with disabilities to have greater autonomy in their learning outside of the voice studio.

Educators must also practice self-compassion, patience, and empathy in their journey to becoming more inclusive. It is important to recognize that not every student's needs will be met perfectly every time. There may be moments when the work seems easy, as well as times of uncertainty and doubt. Mistakes will be made, but they are also opportunities for collective learning and growth. As long as educators remain curious and committed to learning, the challenges they face can lead to more meaningful progress for everyone involved. Creating inclusive spaces grounded in empathy can be emotionally draining, yet it can also be some of the most rewarding work.

A Way Forward

Performing arts institutions are uniquely positioned to lead disability inclusivity practices across all fields of study, not only as a part of their policy, but as a core aspect of their mission. The creativity that organizations like these bring can be used to redefine what inclusion truly means. An example of this level of inclusive practice is the Paraorchestra in the United Kingdom, which beautifully demonstrates how disabled and nondisabled artists collaborate to create meaningful work. By integrating professional disabled and non-disabled musicians, they produce world class orchestral performances across Britain, showing that when groups like these share space and talent, the results can be extraordinary.

Breaking down the barriers between disabled and nondisabled artists can also happen on a smaller scale, like in the private voice studio. The private voice teacher is uniquely positioned to not only create a safe space for disabled artists but also to demonstrate that including students with disabilities in the studio enriches the learning environment

for everyone. Embracing diversity in the voice studio creates a space where all students can thrive, while challenging society's preconceived notions about what is possible.

Ultimately, creating inclusive spaces grounded in empathy does not come without its challenges, but it is one of the most rewarding ways to teach. Reflection, patience and a willingness to work through biases will help the instructor meet the needs of all students and find more fulfillment in their work. Creating inclusive spaces is not only about providing access, it also grounds itself in the belief that all voices deserve to be heard, valued, and celebrated.

The road toward inclusive teaching may be difficult, but it is necessary. This journey calls on educators, institutions, students, and artists alike to all be present at a table. This is the only way to genuinely transform the way we teach and shape the future of the arts. When we dare to wonder—to ask, to listen, and embrace differences—we learn, grow, and accept that the whole is greater than the sum of its parts.

Glossary

empathy: the ability to understand and share the feelings of someone else, and to apply that understanding to one's actions.

empathy fatigue: the exhaustion experienced when someone's profession requires them to regularly provide emotional and empathetic support to someone else. It is common in fields like education, medicine, and therapy.

self-care: taking care of oneself physically and emotionally, especially when your work or family life requires you to care for others.

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Further Resources

ABLE Assembly (at Berklee Institute for Accessible Arts Education): https://college.berklee.edu/able

Amputee Coalition: https://amputee-coalition.org/

Appcompanist: https://www.appcompanist.com/

Best Buddies International: https://www.bestbuddies.org/

Chiko, Ty: https://www.ty-chiko.com/

Gemini Notebook: https://notebooklm.google.com/

Leadership Exchange in Arts and Disability: https://www.kennedy-center.org/education/networks-conferences-and-research/conferences-and-events/lead-conference/

Paraorchestra: https://paraorchestra.com/

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Author Biography

Dr. Ty Chiko is an internationally recognized performance artist, entrepreneur, and disability advocate form the Bahamas. With over two decades of experience, he has been honored bu the U.S. Embassy and the Bahamas Independence Committee and is listed among the Top 40 under 40. Ty uses art and music as tools for advocacy, focusing on inclusivity and accessibility for youth and people with disabilities.

Ty's Impressive career includes international appearances in the United States., United Kingdom, South America, and South Africa. He is a 2022 finalist in the Lotte Lenya Competition and has appeared on albums, recordings, news stations, magazines, and podcasts, including collaborations with State Farm and National Public Radio (NPR).

A passionate advocate, Ty's research focuses on accessible theater spaces for people with disabilities. Currently, he serves as the Director of Vocal Music at Interlochen Center for the Arts.

4. Internalized Ableism in Disabled Students: Strategies for Learning Support

David Salsbery Fry

Audio of this chapter is available here: https://www.youtube.com/watch?v=BfAtlwHLhnw

Upon being invited to contribute my thoughts on disability as it intersects with private instruction in the voice studio, I find myself continually circling back to a thought that has informed my disability advocacy since I publicly disclosed my disability in 2015: that, as a general rule, accommodating disability means accommodating individual humanity, and that all practices that accommodate disability are of value to all people. In other words, disability doesn't create special needs so much as it illuminates universal needs. Disability may impact how those needs are addressed, but not their existence.

As I write this, I am just a little shy of my 50th birthday and have only recently come into my full vocal potential. My technical progress has been steady but slow, and the pace of my learning has resulted in some missed opportunities. I reflect back and, as much as I wish I had been able to progress faster in my studies, I now recognize that there wasn't really anything anyone could have done to assist me in accessing the full power of my instrument before I was ready to. So, what held me back, and how might you as a teacher be able to support students who present with similar challenges?

Growing up with severe hemophilia, and the attendant increased risk of injury that accompanied that condition before medical advances in the 1990s largely eliminated that concern, I was "The Kid in the Helmet"—my outward appearance, augmented by protective equipment, exemplified my otherness. Eventually, my self-awareness and risk-averse habits made it possible for me to ditch the helmet, but the normal physical education curriculum remained too hazardous. My school attempted to create an alternate program for me, but the P.E. teacher rebelled and refused to continue to provide me with one-on-one time out of embarrassment and disgust at my lack of coordination. I distinctly remember several missed basketball free throws in a row, resulting in sighs of exasperation and rolled eyes on our last day working together. I was eleven years old. After that, their "accommodation" was to lock me in the gym's supply closet during P.E. class. The boredom and isolation was stifling.

Music was a wonderful escape for me. Singing was also a pleasant way of mobilizing my body, one that I was greatly in need of since other avenues were closed off to me. I made the most of the available opportunities, which included climbing the ranks of Pennsylvania's competitive interscholastic chorus festivals from the county level to the district, regional and all-state choruses, finally landing a spot in the Music Educators National Conference All-Eastern Honors Chorus. I also excelled academically, with a keen interest in the natural sciences owing to all my exposure to the physicians who served as my caregivers. I struggled to narrow my focus, in part, I think, because I felt the need to prove myself. This led to my acceptance to the Johns Hopkins University/ Peabody Conservatory double degree program, majoring in biology at JHU and voice performance at Peabody. I thought perhaps I would follow in the footsteps of Robert Sataloff and aim to both attend medical school and pursue a doctorate in voice performance, with a career in laryngology being the ultimate goal.

In my first month in Baltimore, I met with the two pediatric hematologists who ran the hemophilia treatment center at Johns Hopkins Hospital. They shot down every single one of my dreams in spectacular fashion. Singing? Aren't you worried about microhemorrhages of the vocal folds? Otolaryngology? Surely the hepatitis C you contracted through the contaminated blood you received in the form of plasma-derived antihemophilic factor concentrates as a child would make you ineligible to practice a surgical profession. I worked tremendously hard to reach Johns Hopkins, only to be immediately told that everything I came there to do would prove impossible.

These are but a handful of examples. I was taught over and over again that I was fragile and incapable, not by random strangers, but by those charged with my education and care. And I took these lessons to heart and tempered my expectations of myself. Failure was to be presumed and expected. Social ableism became internalized ableism. The ambitious and enthusiastic child was gone. It was the young man who believed himself incapable, uncoordinated and unworthy who showed up to voice lessons every week.

The way this manifested in my technique was an overly cautious and under-supported production with a low falsetto break that persisted until my 30s, by which time I was out of the running for many competitions and training programs. Avoiding injury was my primary concern, so I prioritized healthy production. I played it safe at a time when most of my colleagues went in the other direction, seeking to be as impressive as possible at a young age to attract interest and attention, even if that meant over-adducting the vocal folds and overriding that adduction with excessive breath pressure.

This is where things get tricky pedagogically. If your student presents with a similar set of issues to mine, and a loud internalized ableism resulting in negative self-talk that inhibits them from fully engaging with the exercises and prompts you offer to them, how can you push past their inhibition to encourage greater self-efficacy? In short, you can't.

When I began vocal studies, my proprioception was extraordinarily poor. My mind and body were so disconnected from each other that I had constant fantasies of becoming a brain in a jar—my body was nothing but inconvenience and pain and frustration. I had to work through these issues at my own pace, even if that meant that some doors would be permanently closed to me. But considering that in most pedagogical paradigms, there are expectations of growth and progress, and the fear that a student lagging behind their peers may reflect poorly on the teacher, how can you as a teacher reconcile these competing forces?

By now, I hope you've noticed that I've spent much more time writing about perceived limitations than actual limitations. The actual limitations I have (like, for example, elbow contracture from repeated injuries) are few, and have no bearing on my vocal technique. But my perceived limitations derive entirely from internalized ableism and internalized stigma, which are forms of trauma. Thus, I propose that embracing trauma-informed pedagogy (TIP) for all of your students is the best inroad towards the effective instruction of disabled students. My trauma is unique, and you may have no relevant experience of anything even adjacent to my trauma, but it is still trauma at its core and creating a supportive environment does not require specialized knowledge of my condition, or even a detailed understanding of my past. It requires compassion.

TIP appears, at a glance, to be widely misunderstood in the field of vocal pedagogy. The reactions I see appear to fall into one of two camps: the first assumes that TIP is just coddling and a way to excuse laziness in students. The second assumes that embracing TIP means becoming amateur therapists, encouraging students to spend part of their time in the studio "opening up" about their trauma as a means to directly addressing it. TIP is neither of those things. It is a defined (Harris and Fallot 2001), rigorous (Carello "Resources"), and evolving (Carello "Principles") set of principles that are broadly applicable as the vast majority of voice students have experienced some form of trauma prior to commencing lessons. As Stephen Wadsworth once said, "Opera singers are damaged goods. Why else would anyone choose a profession that involves getting up in front of a room full of strangers and screaming 'Ah!' at them?" (Wadsworth 2006).

There are several core values of TIP (Harris and Fallot, 3), and I greatly encourage you to dive into them, but I especially hope you will focus on understanding the principles of collaboration and empowerment, as these principles strike me as diametrically opposed to the master/disciple paradigm that is a hallmark of most vocal pedagogy. In the context of disability, the danger of the master/disciple paradigm is that a student's self-assessment of "I don't think I can do that," will be met with "Yes you can, do as I tell you, and if you can't do that why are you even here?" It is a much more effective strategy to provide positive feedback for what a student is presently capable of doing, accept a student's self-assessment of their present limitations, and expect that continuing to provide a supportive environment will eventually cause that student's assessment to shift in the direction of greater capability.

All of the things I was convinced I could not do with my voice, I can do now. It's wonderful. And I couldn't have been bullied into doing the things I can do now a single day earlier than the day I came to understand for myself that I was capable. That understanding became available to me through the compassion, patience, and empathy of my teachers. If you yourself were instructed in the master/disciple paradigm, it is likely that you have some lingering trauma of your own. Don't let that become generational trauma for your students. Believe them, support them, encourage them, remain optimistic in the face of challenges, and understand that, in the voice studio, tough love isn't love at all.

This approach will benefit all of your students, but is of paramount importance for disabled students, as our trauma is deeply rooted in our relationship with our own minds and bodies, and the goal of voice lessons is the disentangling of the body so that it is responsive to impulse and the disentangling of the mind so that our emotions and experiences can be channeled into our characters without judgment or repression. The stigma of disability, and the lack of support our population has received from traditional pedagogical approaches is a major contributing factor to the poor representation of the disabled on operatic stages. Addressing that injustice begins with your willingness to discard ableist paradigms, and the master/disciple paradigm is fundamentally ableist precisely because it denies the value of the lived experience of your students. We are all experts on our own lives. Your students deserve that respect, and I dearly hope all of you will strive to provide it.

Glossary

ableism: the structural and personal exclusion of, denigration of, and discrimination against, people based on ideologies of ability and disability. It is intertwined with ideologies of race, gender, sexuality, and class, and rooted in colonial and capitalist practices.

> Fiona Kumari Campbell defined ableism this way in her early work:
>
> … A network of beliefs, processes and practices that produces a particular kind of self and body (the corporeal standard) that is projected as the perfect, species typical and therefore essential and fully human. Disability then is cast as a diminished state of being human. (Campbell 2001, 44).
>
> Note: Campbell later distinguished between ableism and disablism, the former concept foregrounding and privileging ableness with disability positioned as a loss, and the latter understanding disability as a product of social structures (Campbell 2009, 21). However, the term ableism is the most commonly used in public discourse, referring as defined above to exclusion, denigration, and discrimination.

adduction: vocal fold adduction refers to the closing of the glottis (the space between the vocal folds).

hemophilia: a genetic blood disorder with two main types, in which inappropriately low levels of certain clotting factors inhibit blood clotting. Hemophilia can lead to complications including external or internal bleeding episodes, joint damage, and intracranial hemorrhage.

internalized ableism: a result of ableism in which disabled people/people with disabilities absorb and internalize negative conceptualizations of disability. Internalized ableism can lead to deep-seated feelings of shame, self-loathing, and anxieties and doubts about one's capabilities (see also Campbell 2009).

microhemorrhage: occurs when a small blood vessel ruptures and bleeds

proprioception: the ability to sense the location, position, and movement of one's own body and its parts.

trauma-informed pedagogy (TIP): A way of teaching that recognizes and takes into consideration the prevalence of trauma among students, and how it affects their learning. Emily Jaworski Koriath notes in *Trauma and the Voice* (2023) that "Trauma-informed pedagogy is not a system to heal trauma, but a framework for care to realize, recognize, and compassionately respond to trauma and to resist re-traumatization" (Koriath 2023, 227).

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Author Biography

David Salsbery Fry is a bass opera singer, actor, and advocate for performers with disabilities. Praised for his “extremely sensual and almost impossibly deep tones” by concerti, he is the grand prize winner of the Bidu Sayão International Vocal Competition.

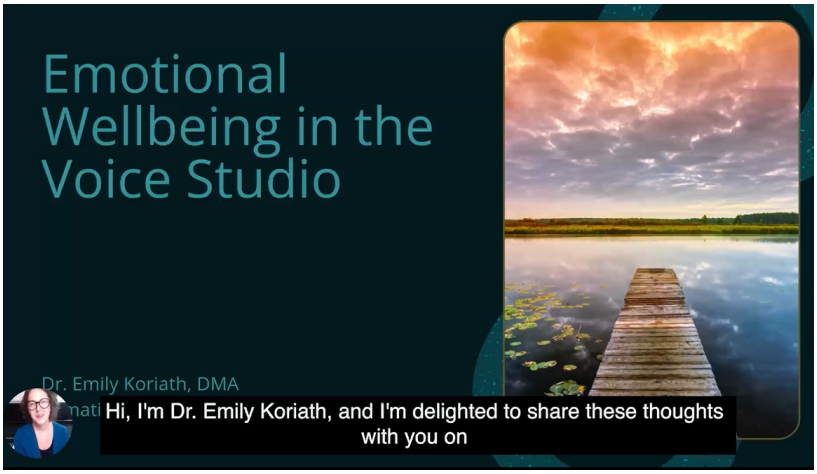
Notable engagements include Butt the Hoopoe in *Wuorinen* and Fenton’s *Haroun and the Sea of Stories* for BMOP, Osmin in *Die Entführung aus dem Serail* for St. Petersburg Opera, Don Basilio in *Il Barbiere di Siviglia* for Vero Beach Opera, and the world premiere productions of Wheeler and Jacobs’s *Naga*, Karchin and Osen’s *Jane Eyre*, Czernowin and Perceval’s *Infinite Now* and Maor and Levy’s *The Sleeping Thousand*.

His writing includes articles for *Classical Post*, *Classical Singer*, *HowlRound*, *The Liberated Voice*, and *Opera and Disability*. He is also a featured contributor to Claudia Friedlander’s *The Singer’s Audition & Career Handbook* and James Harrington’s *Building a Career in Opera from School to Stage: Operapreneurship*.

More on Mr. Fry’s life and career can be found at davidsalsberyfry.com and in the October 2015 issue of *Classical Singer*.

5. Emotional Well-Being in the Voice Studio

Emily Koriath



Click the image above to view the video or click here:
https://www.youtube.com/watch?v=fYQcX-29Td0

The transcript of the video is below.

[Video Transcript]

Hi, I'm Dr. Emily Koriath, and I'm delighted to share these thoughts with you on emotional well-being in the voice studio. Before we get into the heart of the presentation, I'll tell you a little bit about myself and how I came to be discussing these topics. In addition to my musical qualifications, I spent several years training to become a somatic experiencing practitioner. Somatic experiencing is a trauma-healing modality developed after decades of research by psychologist Peter Levine. So in the course of that research, I also found my colleagues in the Voice and Trauma Research and Connection group, and we collaborated to create *Trauma and the Voice*. I'm the editor and primary author of *Trauma and the Voice*, which was released in 2023, published by Rowman and Littlefield in conjunction with the National Association of Teachers of Singing. I've also been teaching at the university level for 12 years, and before that, I spent seven years directing high school choir. And I think it's that link from secondary

education into higher ed that really helped me to observe some patterns in students that then led to the trauma research, which is how we got here today.

So the first thing that I want to stress is some some people may have seen this topic in a list of the contents of the resource and thought, “oh, gosh, why are we talking about emotions?” So I really want to stress that mental health disorders are characterized as disabilities by the federal government in the United States. Just a very brief list: this includes anxiety, depression, ADHD, autism spectrum disorders, and post-traumatic stress disorder. And because these diagnoses are labeled as disabilities, it’s really then up to us as educators to learn more about each of these conditions, especially how they impact learning, cognition, and emotional regulation. Because whether we like it or not, I remind teachers that we are in the feelings business. Whether we talk about it actively or not, our students are engaged in extremely high-level emotional states when they engage with the texts of operas, musicals, and some art songs, as well, that in many cases we are dealing with intense emotional states like the loss of a loved one, other types of grief, the pain of unrequited love, death, and so we are asking students to move into these intense conditions and it’s really important for us to help them develop the skills to re-regulate after practicing or performing these really intense texts.

Something I also loop into these conversations is that it’s really important for us as educators to talk to students about the practicing process because that’s one of the places where negative self-concept can really have a devastating impact if students haven’t figured out how to problem solve objectively without also making themselves feel bad in the process.

So really when we’re talking about emotional skills, we’re talking about professional skills because as we know, careers in the performing arts are varied. They are highly changeable and not a linear path. And so it takes a lot of determination and a lot of belief in your abilities, a real awareness of the job market so that you have a strong sense of where you can excel with the gifts that come more naturally to you and what things maybe, you know, what characters or what roles, what kinds of opportunities don’t speak to you and don’t really represent something that would be fulfilling for you personally. Not every opportunity is right for every artist, as we know. And so there’s a lot of self-assessment that helps artists make decisions about, “should I audition for this? Is this competition right for me at this time?” And so, in addition to these professional level musical skills that we’re cultivating with students, there’s also this emotional side that will help them be better prepared for the realities of our career field.

But it's really important to state this as sometimes teachers will say to me, "well, you know, this industry is really difficult and we're not doing students any favors if we are just being nice to them and not preparing them." So a lot of students experience kind of a tough-love approach from teachers. And sometimes it's just tough and the love part is not very evident. And so what I'm here to tell teachers is that the research indicates that we have that backwards, that actually everyone is capable of developing resilience skills. It's, you know, one of the threads of human history that we are just a remarkably resilient species under the most horrific of conditions. And those resilience skills come after we have a sense of safety, a sense of how much risk is permitted and tolerable within certain sets of circumstances, and recognizing that we're in an environment where we can make mistakes without being penalized.

So that doesn't mean I'm asking teachers to ignore mistakes, but that we can be more tolerant of our students' mistakes in the learning process so they can learn, too, that mistakes are a natural part of growth and skill development.

So you may be thinking to yourself, "what is this lady talking about? I am not a therapist. That is not why I got into this business," or any variation of that most common comment that I hear from teachers. And I just want to stress that even with my trauma healing training, I'm not a therapist either and don't purport to be one. So we're never asking teachers to diagnose or attempt to treat any sort of medical condition. And in fact, it's not even appropriate for teachers to say, "Hey, did you ever think you might be depressed?" Because again, that's kind of outside of our scope of practice, but what we're going to talk about, the strategies in the second half of the presentation are all firmly within the teacher's scope of practice. I think we do ourselves and our students a disservice because I think there's quite a gap between "I'm not a therapist," therefore I'm never going to talk about any of these things in the studio ever, and crossing an ethical boundary and doing something that's really not in our scope of practice. And so it's this vast in-between where I'm inviting us to consider updates to our pedagogical practice.

So, again, we're not talking here about therapy of any kind we're not asking you to ask your students questions about how they're feeling or what's going on in their lives, or helping them to process any emotional things that are happening outside of their music-making experience. We're not talking about coddling students and trying to make things easy for them. We're not talking about handing everyone a trophy and telling everyone that they're doing a great job when that's not true because, again, that's professionally irresponsible. That's not the reality of what happens in the career. And at the same time,

we can be very objective about the things we're observing in the studio and about our students' coping skills without kind of straying from our ethical boundaries.

So really to offer another reframe, what we're talking about here is making sure that our concern for the human being that is in front of us, working to develop skills and grow musically and personally, our concern for that person is just as great, if not greater, than our concern about the musical outcomes, that we are invested in the learner, in the human being, and making sure that as they develop skills, as they learn and grow, they are also taking care of themselves as a person and not taking on a workload that is detrimental to their well -being.

So where do applied teachers fit into this whole process? Well, there's three major areas we're going to discuss really quickly.

Creating a supportive studio environment. What does that mean and what does that not mean? Fostering a growth mindset in students that they then carry with them when they leave their studio relationship with you. And then modeling appropriate responses to the very real stresses of being a performing artist.

So when we talk about creating a supportive environment, one of the first things that I talk about with my students is "what is practicing? How does it work? What do we do? What's good practicing? What's less effective practicing?" Most students, especially if there's a neurodivergence on board, want very deeply to practice well and to do the things that they are responsible for and for most of them I have found the biggest obstacle to practicing is that they just don't know how to do it and how to do it well and so they go into the practice room they work on something they go over it many times without really finding any improvement and then they get frustrated, and so the brain research tells us that unless there is a level of what's called "desirable difficulty," challenges that are maybe just a step beyond the student's current level, but that are obtainable, that that level of mental engagement actually releases dopamine in the brain and helps students feel that they are being successful, which then kind of feeds the fire for coming back for more and more sessions to continue to solve the puzzle and get that brain reward and feel good about what they're doing. There's some fantastic research about this in Lynn Helding's book, *The Musician's Mind*. So if you haven't already checked that out, that's a wonderful resource with really fantastic clear guidelines of what makes great practicing based on what we know about brains. I think once a student discloses their disability to you, it's more than appropriate to ask how that affects their learning, because if they're, you know, studying with you in an undergrad

voice studio, they've managed to finish high school and have found ways to complete academic tasks.

And so I think having those conversations early as you're getting to know your students also shows that you are not afraid to discuss these topics and that should they begin to struggle later in the semester, they know that they might be able to ask you, you know, "it feels like there's a lot of stress on me and I'm not really able to keep up with tasks. Can we talk about problem-solving or look at my calendar or find a way to help me stay on top of things?" So establishing that level of conversation without stigma really goes a long way and then showing students that you're someone that they can trust with these difficult questions. Because ultimately we're trying to create thriving artists, people who not only are musically skilled, but are going to be happy and productive in these careers, so this concept of the growth mindset was popularized by Carol Dweck's research, and she talks about how we either think our skills are fixed and we are who we are and we do what we do and it's just this way and it can never change, or we understand that skills are learnable that thanks to the wonders of neuroplasticity, we're able to keep learning for our entire lives, our brains can change themselves at any time, and so many students come to us with this fixed mindset and are very afraid of proving or showing that they're not as good as people thought they were or they don't belong or they can't hack it. And so there can be this real bracing and this real avoidance of difficulty because people with a fixed mindset feel, are afraid they're going to be found out.

And so it's really great for us as teachers to model, you know, if an exercise doesn't go right like, "oh, interesting, what did you notice about that? Would you like to try it again?" and making the studio a very safe place where mistakes can be made, where we talk about not just the musical elements but also the learning process, so that students get to know themselves as learners more and more in the course of your work together and then when they leave you and your studio, they know more about themselves and are more equipped to continue working, learning, growing even without your direct weekly guidance. I think it's also really crucial to stress that temporary failure at a task is not the same thing as your failure as a person. It's a natural part of growth and learning.

Lastly, you know, this is the part of my book that I, you know, jokingly refer to as "Teacher, Heal Thyself," and honestly, the better we are at regulating our own emotional states, the more we can model that for our students. Consciously or unconsciously, they pick up on everything that we're doing. So if we're good colleagues and we speak appropriately about our collaborators, they learn from that. Even if we're able to discuss

a difficult situation or, you know, being in an uncomfortable environment where maybe one of your collaborators is not very well regulated or is using harsh language with other colleagues, how do you handle that? How do you respond to that? Not, of course, not asking teachers to become Pollyannas and put a rose-colored sheen on everything that you experience, but to be able to discuss the difficult things without also then being dragged into a heightened emotional state. Also shows your students that it's possible to have a reaction, to notice inappropriate behavior and then choose to respond from a very well-regulated place, which I think everybody could use a little bit more of.

So of course, the more well-resourced you are in terms of your own emotional state, who supports you in your life? What kinds of things are appropriate outlets for you when things get really stressful? This is also why I personally choose to disclose my neurodivergences to my students, because I want them to see that it's possible to be a happy person with a balanced life and a career in music. So that of course is a personal choice that you never have to make for yourself, but for me it became an important part of my pedagogy as I realized just how many students struggle with these diagnoses and really feel like they're the only ones. So that is a very brief version of, you know, my 10-chapter book or a presentation that I normally give in about an hour.

So I want to leave you with some resources for further reading, of course, I'm a little bit biased, but my book *Trauma and the Voice* just discusses a lot of these concepts, also through the lens of trauma-informed pedagogy. Paola Savvidou's *Teaching the Whole Musician* is a fantastic resource for all kinds of musicians' wellness topics. She also talks about practicing goals and structuring sessions. She touches on some of these most common mental health diagnoses. *The Art of Practicing* by Madeline Bruser has a has a more maybe almost a spiritual approach to teaching. What are we doing? What are we thinking about? What is the intentionality that we bring to our practicing? And then of course, as I mentioned, Carol Dweck's book *Mindset*, if that's a new concept to you, that's really worth exploring. Because I think it is more common than we think that our students feel that they're stuck in one place.

So hopefully this is enough information to get you curious about maybe making one or two little adaptations to your pedagogical practices to support your students, not only in their musical endeavors, but also in their entire lives.

Glossary

desirable difficulty: In learning theory, a task that is challenging and leads to improvement. A concept developed by Robert Bjork and introduced in “Memory and Metamemory Considerations in the Training of Human Beings” (Bjork 1994).

somatic: Having to do with the body.

somatic experiencing: A therapeutic method to change the body’s response to trauma-related stress (Kuhfuß et al. 2021). It is based on psychologist Peter Levine’s work (Levine 1997).

trauma: According to the American Psychological Association, trauma is “an emotional response to a terrible event like an accident, crime, natural disaster, physical or emotional abuse, neglect, experiencing or witnessing violence, death of a loved one, war, and more. Immediately after the event, shock and denial are typical. Longer term reactions include unpredictable emotions, flashbacks, strained relationships, and even physical symptoms like headaches or nausea…While these feelings are normal, some people have difficulty moving on with their lives” (“Trauma” 2025).

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Author Biography

Emily Koriath (D.M.A., SEP, RYT-200) taught studio voice at the university level for eleven years before transitioning into private practice. Her first book, *Trauma and the Voice: A Guide for Singers, Teachers, And Other Practitioners* was published by Rowman & Littlefield in 2023. Most recently, she served as Assistant Professor of Music at the University of Alabama at Birmingham, where she focused on undergraduate voice lessons. At Radiant Somatics, she combines her training in Somatic Experiencing with body awareness and functional pedagogy to help artists find more joy and creativity in their work and in their lives. Prior to her appointment at UAB, she taught diction, vocal pedagogy, and conducted mainstage musicals at Plymouth State University in New Hampshire. Emily was a member of the NATS Intern Program in 2018, and has been studying the Alexander Technique since 2013 with Betsy Polatin, Kate Conklin, Robyn Avalon, Peter Jacobsen, and Michael Hanko.

II. Teaching Students with Sensory and Neurological Disabilities

6. Overcoming Technical Hurdles Unique to Visually Impared Singers

Maria Georgakarakou



Click the image above the view the video or click here:
https://www.youtube.com/watch?v=8BAfQnYN_0E

The transcript of the video is below.

[Video Transcript]

[*A white woman with bobbed red-brown hair, in a red dress, sits in front of a wallpapered wall with two lamps in front of it. She is reading a paper with her hands, using braille.*]

My name is Maria Georgakarakou, and I am a voice pedagogue. I am visually impaired, and, as part of my postdoctoral research at the University of Macedonia in northern Greece, I will attempt to analyze my method of teaching visually impaired singers. To do this, I will inevitably throw some light on certain technical particularities unique to this subculture [**see glossary, "blindness as a subculture"*].

The world's visually impaired population is widely diverse. We have people who are young, or older; we have people who are adventitiously blind or congenitally blind; we have people who have availed themselves of certain strategies unique to some countries, such as early intervention. Early intervention is not practiced in countries such as Greece, which is the country where I work.

So I would like to caution fellow voice pedagogues: please make sure that your visually impaired student actually presents with the [following] issues I will be analyzing before trying to teach him or her methods that will alleviate them.

One: The neck is bent forward and the head is facing down.

Two: Even if the head is facing front, the shoulders are slumped.

Three: While the student is walking, the arms are stiff and do not swing freely with each step.

Four: The knees are hyperextended.

Five: While the heels are almost touching, the feet are spread apart.

Six: When walking, movement is initiated from the hips, and the legs and feet move as though they do not have any joints.

Let me show you what a blind singer should not do: [demonstrating] This is a face which is actually looking down. And we shouldn't do this because, if we do it, we bend our neck our vocal mechanism is actually trapped in one position, and cannot move up and down as it should. Shoulders are collapsed, chest is collapsed.

And now [*demonstrating*], shoulders are collapsed, but the head is in a correct position [*looking straight forward*]. This means that your vocal neck mechanism is again trapped and cannot phonate. Let me try to phonate like this. Oh, God, it's awful, isn't it?

Now, if my position is the correct position [*shoulders are not collapsed, face is looking straight forward*]—oh, you can see the difference.

Now [*demonstrating*] my feet are spread apart. My knees are hyperextended. I'm initiating movement from the hips, and I'm very stiff and unyielding [*camera focuses on feet far apart*].

My pelvis is especially stiff, and I need exercises in order to free it [*camera pans up to Dr. Georgakarakou's face*].

I have worked with a significant number of visually impaired students, and have noticed these issues primarily with people who have had no useful vision for many years. Such students move their torso as a whole without using its integral parts.

Ask your student to sit on a chair and urge them to do pelvic tilts from back to front, side to side, or around the circumference of a circle.They will probably move their torso as a whole and believe they are moving their pelvis. This means that they have a very weak connection with their body.

As their teachers, our first priority is to rekindle the proprioceptors. You can do this in several stages.

First, ask them to lie down on a wooden floor and urge them to imagine that they are part of a moving picture on this floor. Encourage your students to slide on the floor and experience gravity. Then ask them to dance while lying on the floor. This dance improvisation can represent a raised picture you have shown them (i.e. a tactile image: see Lewis on resource list).

You can use music as a stimulant as the students are lying on a floor surface free of obstacles and furniture. They cannot fall or lose their balance, or otherwise injure themselves. They may be imaginative and flexible, both physically and intellectually. Ask them to paint a picture using their bodies. If you are teaching a group of students, they can collaborate with one another. Allow as much time as is needed for their bodies to feel free and supple. Tell them to feel their individual body parts, and ask them to tell you how many body parts they actually felt they had.

The second stage of my method also uses the floor. Ask your students to lie on their back and bend their knees so that the soles of their feet are touching the floor. Then urge them to do pelvic tilts back to front and front to back. Imagine that they move their pubic bone towards their nose and then away from it. They may do this lying on their back, [*or*] on their side. We have borrowed this exercise from the Feldenkrais Method. Integrate this exercise in your voice lesson for 2 or 3 months. Continue doing pelvic tilts with your students using both feet or one foot at a time.

Ask your students to view their whole spine as a mere extension of their pelvis. Ask them to notice how the whole body moves along with the pelvis, if they’re doing the exercise correctly. With this exercise, even the head may be freed and may roll slightly from back to front.

The third stage involves pelvic tilt on an exercise ball or while sitting on a chair. Many blind people cannot balance on the ball and are afraid of falling. If your students feel uncomfortable on the ball, let them sit on a chair and ask them to do a pelvic tilt from front to back, from side to side, or around the circumference of a circle.

[*Dr. Georgakarakou is shown sitting on an orange exercise ball.*]

I'm sitting on the exercise ball and using the armchair for balance. This is a pelvic tilt from front to back [*demonstrates*]. Now I feel my pubic bone going towards my nose, and now it's going away from my nose. Now I'm doing it from side to side. And now I'm doing the circumference of the circle. We have borrowed these exercises from the Feldenkrais Method.

And if you need further information, please consult Awareness Through Movement by Moshé Feldenkrais.

[*Dr. Georgakarakou is shown sitting in front of white curtains.*]

Integrate this movement in your voice lesson for a few months. While doing it, ask them to voice, or ask them to sing something like a yawn-sigh. A yawn-sigh is this: [*descending sigh*] oh! And you will see how much richer your student's sound will be.

The last stage involves standing, bending the knees, and moving knees and pelvis from side to side or on a circle. This feels a little like belly dancing. Make them do this and ask them to phonate while doing this.

All four stages will empower your students, will make them phonate using the whole-body method, and will inevitably turn them into very talented and interesting singers. An interesting singer is a singer who has a unique sound that captivates people.

So if you want to captivate your audience, you can always try this method.

[*Dr. Georgakarakou stands in front of a wooden door.*]

Thank you very much for watching this video. My method has been designed in order to empower blind and visually impaired singers. If you need further information, feel free to contact me at my email address: mylarynx@gmail.com. Thank you again.

Glossary

adventitious blindness or adventitious vision loss: Blindness that is acquired after birth. Depending on when they became blind, people with adventitious blindness may have visual memories (Bruce 2004, 1126)

blindness as a (sub)culture: The idea that a "defined or distinct blind culture exists"(Pierce 2008). This is a complicated idea that has long sparked debate among blind people (see Pierce 2008, Edwards 2022, Salisbury 2021—please note that these are all examples in U.S. publications).

congenital blindness or congenital vision loss: The condition of being born blind (Bruce 2004, 1126).

Feldenkrais method: A somatic (movement) method developed by Moshé Feldenkrais. From the 1950s forward it has been used in various wellness contexts including music pedagogy and practice.

phonation: The process of creating vocal sound through the vibration of the vocal folds.

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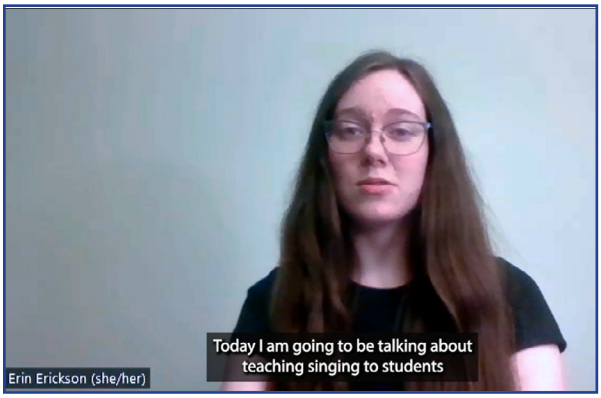
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Author Biography

Maria Georgakarakou, a native of Greece, holds a B.A. in Linguistics from the National and Kapodistrian University of Athens. She traveled to Massachusetts as a Fulbright Scholar in 1997, completing an M.M. in early music vocal performance from the Longy School of Music in 2001, and a PhD in historical musicology from Boston University in 2015. Dr. Georgakarakou is an active performer and voice pedagogue. She recently published the first book written in Greek on voice pedagogy. She is a post-doctoral research fellow at the University of Macedonia in northern Greece, and has been working towards a graduate performance diploma at the Longy School of Music of Bard College. Her experience as a visually-impaired singer and teacher uniquely qualifies her to address the topic of training visually-impaired singers.

7. What Did You Say? An Exploration of Vocal Pedagogy for Singers with Hearing Loss

Erin Erickson



Click the image above to view the video or click here:
https://www.youtube.com/watch?v=GwvTxv5PpbU

The transcript for the video is below.

[Video Transcript]

Hello, my name is Erin Erickson, and my pronouns are she/her. I am a white woman with long brown hair, which I am wearing down. I'm wearing glasses and a black shirt and sitting in front of a light green background.

Today I am going to be talking about teaching singing to students with hearing loss. We'll cover some basics about how hearing works, and how the different kinds of hearing loss impact that. And then I'll offer some strategies to help you start developing a teaching strategy for your d/Deaf or Hard of Hearing student. This information is based on a combination of research that I've done, and my own experiences.

I am a trained opera singer with bachelor's and master's degrees from the Jacobs School of Music. I am also Deaf and have been for my whole life [see Glossary for discussion of the d/Deaf framework]. The tools that I am offering today are meant to be

starting points. Every d/Deaf person is different, and learning the best method to teach a specific student with hearing loss develops over time. Like any other student-teacher dialogue, a little bit of solid ground to plant your feet on while you're getting started.

So let's get started.

So, what is hearing loss?

Let's start with a quick overview of "normal hearing"—"normal hearing" being the medical term used for people without hearing loss. According to the World Health Organization, normal hearing is having a threshold of at least 20dB (decibels) or better in both ears. If an individual has less sensitivity to sound than this metric, they are classified as having hearing loss. Now, the severity of hearing loss falls along the spectrum from mild to profound. People with hearing loss can fall anywhere along the spectrum, and they can be at different points on the spectrum in each of their ears. For example, I have a 50/50 split between my ears: normal hearing in my left ear, profound deafness in my right ear. It's unique to the individual. So if you do have a student with hearing loss, let them explain in however much detail they'd like to share exactly what that means for them.

Next, let's get into how normal hearing functions during singing, and what happens when hearing loss disrupts that process. When we're singing, we receive sound from our environment and from our bodies, via two primary kinds of resonance:

The first is sympathetic resonance. This occurs when there's no physical contact between the source of sound vibrations and the receiver—in this case, the singer and your ears. Instead, your ears receive sound vibrations via the air or some other conductive medium. For example, if you are hearing my voice in this video, it's because the air is carrying my voice to my microphone, and then from your microphone or headphones to your ears. This kind of resonance is how we hear any other singers we're performing with, instruments, and feedback from the space in which you're singing.

And the kind of resonance that occurs with physical contact is called conductive resonance—and it's also nicknamed "private resonance" because it's generated by the vibrations of the bones and cartilage and muscles of the body, primarily those of

the head and neck while singing. Conductive resonance generates sound and creates physical sensation for the singer, which they can use as a guide.

These two resonances combine to create what's called an auditory feedback loop, which is more commonly known as listening to yourself. The ability to listen to yourself is what allows singers to make adjustments and adjustments in the moment to produce the sound that we want.

So how does hearing loss disrupt that feedback, and how does it influence how we sing? Well, the way that sound is disrupted depends on the type of hearing loss—of which, just like resonance, there are two broad categories: conductive and sensorineural.

Like conductive resonance, conductive hearing loss has to do with physical vibration. It's the more common of the two and comes from damage to the outer and middle ear, which are the parts that pick up and transport physical sound vibrations through the ear. This can happen through damage to the eardrum or the ear canal, disorders affecting those components, or even a buildup of material in the ear canal. However, conductive hearing loss does not always affect bone conduction. So a person with this kind of hearing loss may still retain some degree of hearing via the vibrations conducted by the bones of the face. Conductive hearing loss often results in what is called hypoacusis, which is a loss of sensitivity to sound.

It's the kind of hearing loss that might cause your grandfather to crank the volume on the TV up to 100 so he can hear the news. In terms of singing, It can make it difficult to figure out if you're singing at the right dynamic, if you're blending well with a group, if you're balanced, because the sound is softer and you can't pick up the level as well.

The second kind, sensorineural hearing loss, is a little bit more complicated, and also a bit rarer. This kind of comes from issues with the cochlea, where the sound waves are transformed into electrical signals that the brain can process. This kind of hearing loss results in a loss of usefulness of bone conductivity, at least in its capacity to carry sound, since the bones vibrating isn't going to help your hearing much if your brain can't interpret those vibrations. It also results in something called dysacusis, which is a lack of clarity of sound. Sound becomes muffled, muddy, which can present challenges for things like vowel color, blending with your fellow performers, diction issues, and a host of other things.

So now that we understand how hearing loss can directly impact singing, the question remains: how does one teach someone with hearing loss how to sing? How do we navigate the loss or the compromise of the auditory feedback loop?
I'd like to offer three basic strategies to help you get started. As I've said, these strategies are themselves a baseline, just meant to act as entry points into a more specialized approach you can develop in tandem with your student.

But before we get into any of that, I'd like to cover just a little bit of etiquette when interacting with people who are d/Deaf or Hard of Hearing, just to make communication a little smoother. The first one, and maybe the most important, is to make sure that your mouth is always clearly visible. Many d/Deaf and Hard of Hearing people use lip reading to some degree. I, myself, did not realize how much I relied on lip reading until the pandemic hit and everyone's mouth was covered, and I suddenly couldn't understand anyone around me. So always make sure that your mouth is visible to make lip reading as easy as possible. You can also consider speaking expressively, with gestures and facial expressions that may feel a little bit bigger than you're used to, because this adds a layer of visual context that can help us pick up on things like tone of voice, like emotion, and maybe even figure out words that we've missed based on the added visual context. Finally, please refrain from speaking in a really exaggeratedly slow and loud manner, because it actually distorts the shape of the mouth and the sounds that you're making, and makes it harder to understand.

Now let's get into the actual strategies. The first one relies on using visual and motor memory. You know the prevailing myth that if you lose one sense, all of your others become heightened? Well, there is some truth to it. Research done on the differences between learning styles in Hearing children, and children with hearing loss, shows that people with hearing loss generally have stronger visual and motor memories.

These strengths can be leveraged really well in the context of a voice lesson. Let's say you're teaching a student how to sing an [a] vowel. You can pair a demonstration with the use of a mirror, so that your student can get visual feedback to ensure that they're pairing up what they see you doing with what they see themselves doing. You can enhance that even further by using the motor memory, giving detailed descriptions of the positioning and motion of the jaw, the lips, the tongue, and the head. Create a clear idea of what each vowel position looks and feels like. This can allow a student to lock this into their muscle memory, which, for someone who is d/Deaf or Hard of Hearing, will

be a more reliable tool, oftentimes, than using just their ears.

Our second strategy continues that idea of physical sensation through the use of conductive resonance. As I explained earlier, even when conductive resonance can't be heard, it can still be felt, and the physical sensations generated by it can become a really useful tool. If you have a beginning student, you can use conductive resonance via external sources. You can have them touch their own face or their larynx to tune in to the sensation of singing. You could also have your student make physical contact with a piano or whatever instrument you are using in your voice lesson, or even make physical contact with you, with your face or your larynx, depending on how comfortable you both are with physical contact. These kinds of external sources of resonance may be particularly useful for beginning students who haven't yet internalized the sensations associated with singing, allowing them to get a sense of what they're aiming for.

As a student becomes more experienced, their understanding of, and trust in, their own resonance becomes greater, it becomes more nuanced, and it can become an amazing asset for singing. As you work to refine this, student and teacher can develop a vocabulary of the sensations, the physical landmarks, even the mental images that best help the student get in touch with the sensation that leads to the sound they want to produce.

An example of this from my own experience, if I am struggling with the resonance on a specific pitch, my teacher will often ask me to imagine singing through the gap between my front teeth for notes in the mid range and up and over the back of my hard palate for my high range. We are by no means the first people to use this strategy. However, I feel like we rely on it more than hearing. I navigate resonance issues and a lot of my other technical work almost entirely based on physical sensations rather than just sound, because I find it a lot more reliable. Asking the student to describe how singing feels from the beginning of their learning can help get them attuned to those sensations. And as you keep doing it, over time, you will develop a really refined understanding of your individual experience of sound, that can turn that conductive resonance into a wonderful tool for singing.

Our third strategy is a relatively simple one. It's allowing students to move, wiggle. This strategy takes that physical relationship with sound I've been talking about a step further, out of the larynx and into the body as a whole. When your hearing is compromised, your understanding of sound changes. It can become a little more abstract, a little more kinesthetic. So not only can d/Deaf and Hard of Hearing singers

benefit from exploring sound via sensation, they can also benefit by exploring it through motion—especially for aspects like vowel color, like timbre, like vocal color and dynamic that can already take a long time to refine just with hearing.

For example, in my own practice, I've found that for whatever reason, tilting my hands is super helpful for figuring out vowel color, and tracing the path in the air that I want a high note to take helps me figure out where to place it. This method can be particularly impactful for students with dysacusis, which is the lack of clarity of sound. This kind of kinesthetic learning can help them conceptualize aspects of sound their hearing may not be very sensitive to.

In summary, the most important thing to do when beginning to teach a student with hearing loss [is] not to panic, and just to listen. Everyone's ear is different, whether they have hearing loss or not. And I hope that the three strategies. we've discussed—leveraging visual and motor memory, conductive resonance, and allowing for exploration of sound through the body—can help you start developing a teaching strategy that helps you and your students soar.

Thank you so much for your time, and happy teaching.

Glossary

conductive hearing loss: typically comes from damage to the outer and middle ear, the parts the pick up and transport physical sound vibrations through the ear. It can happen through damage to the ear drum or ear canal, disorders affecting those components, or a buildup of material in the ear canal. The conduction of vibrations through bone may not be impacted. Conductive hearing loss often results in hypoacusis, a loss of sensitivity to sound.

conductive resonance: in singing, a type of resonance that is generated by the vibrations of bones, cartilage, and muscles, primarily in the head and neck. It creates physical sensation for the singer.

d/Deaf: This way of writing the term acknowledges longstanding but debated distinctions between auditory deafness (lowercase "d") and cultural Deaf identity (uppercase "D"). Deaf cultural identity traditionally centers on the shared primary use of a sign language for communication instead of an oral language (sign languages are culturally specific throughout the world; in the U.S., this is American Sign Language, in the U.K., British

Sign Language, etc.). A person's own preference is complex and based on both individual and cultural factors. It is important to note that being Deaf has conventionally not been considered a disability within Deaf cultural discourse, where the idea of "hearing loss" was subverted by the idea of "Deaf gain." It should also be noted that Deaf culture and the "d/Deaf" framework are not the only ways of identifying related to deafness; there has been debate and change—for example, deaf anthropology scholars Michele Friedner and Annelies Kusters have argued for the use of lower case deaf to encompass the multiplicity of deaf identities and experiences, with the understanding that it is less politicized and less dependent on context (Friedner and Kusters 2015, ix). However, many individuals continue to refer to their own identities using the capitalized Deaf; it is used in this transcript in the author's self-description at the preference of the author.

dysacusis: rather than an inability to perceive sounds, dysacusis indicates a lack of clarity in how one processes sounds. Sensorineural hearing loss (see below) results in dysacusis.

Hard of Hearing: Within Deaf culture, the term "Hard of Hearing" (HOH) can refer to people with some hearing loss who primarily speak English but may also use ASL; or it can refer to an auditorily deaf individual who does not identify culturally as Deaf. (National Association of the Deaf, nad.org: http://nad.org/issues/american-sign-language/community-and-culture-faq).

hypoacusis: a loss of sensitivity to sound. Conductive hearing loss often results in hypoacusis.

normal hearing: the medical term, according to the World Health Organization, used for hearing that has a threshold of 20dB or better in both ears (if a person can hear quiet sounds at 20dB in both then there is no hearing loss).

sensorineural hearing loss: this type of hearing loss involves the cochlea, where sound waves are transformed into electrical signals that the brain can process. In this kind of hearing loss, bone conductivity is less useful.

sympathetic resonance: resonance that does not involve physical contact between the source of a sound (e.g., a singer) and the receiver of the sound (ears).

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Author Biography

Erin Erickson, born and raised in Columbus, Indiana, has been performing in church and school choirs and theater groups since the age of 5. She began her classical studies in 2015, which eventually led her to Indiana University's Jacobs School of Music. At Jacobs, Erickson studied with Alice Hopper and received both her Bachelor's (2022) degree and her Master of Music degree (2024). Erickson performed with a number of the school's ensembles, appearing on the prestigious Musical Arts Center stage in the chorus of Tchaikovsky's *The Nutcracker* in 2021 and 2023 and performing with the Singing Hoosiers. She was also a member of Reimagining Opera for Kids (ROK), a Bloomington-based organization whose mission is to bring classical music to elementary and middle school students across Indiana. She spent four years with ROK, bringing opera to schools across the state both in person and virtually. In the summer of 2024, Erickson made her European debut, appearing as the Zweite Dame and Zweite Knabe in Lyric Opera Studio Weimar's production of *Die Zauberflöte*. When she isn't singing, Erickson enjoys reading, long walks with her dogs, and researching teaching techniques for Deaf and HOH singers like herself!

8. Lessons From Facial Nerve Palsy: Top-Down Strategies for Singing

Heidi Moss Erickson

Audio of this chapter is available here: https://www.youtube.com/watch?v=MErds3IchKw

** See the end of this chapter for a supplementary video*

Johan Sundberg once likened the voice to a “mirror to our soul” (Sundberg 1998). As singers, we express music and meaning through our voices, but we also unveil a distinctive combination of sounds, emotions, and qualities that are as unique as a fingerprint. When that voice is suddenly lost, even temporarily, it’s a jolt to the system both mechanically and psychologically. Our voices are inextricably linked to our identities and, as professional singers, our livelihoods. We often hear about how physical damage can lead to the tragic loss of a voice. But there’s another category of vocal disability that isn’t structural.

In these cases, the vocal folds remain undamaged, and the mechanism is intact. Changed, perhaps, or reduced in capacity, but not destroyed. Such challenges can arise from a multitude of situations, ranging from hormonal processes to aging voice to scarring, or to more extreme physical changes. In such cases, even in smaller changes to the physical structure, problems arise from errors in the brain’s signals to coordinate the over one hundred muscles required for our singing art. The pathways involved in this type of dysfunction are invisible; a doctor can’t simply look through a scope to diagnose the difficulty. These kinds of issues require long-term attention, as the brain needs time to slowly adapt to altered conditions. That process isn’t easy, but with specialized motor practice, gradual progress is possible. Though the voice may never fully return to its former state, the recovery can still be meaningful—even a partial return is a precious gift.

Humans have an extraordinary capacity for change. In 1890, William James introduced the concept of “plasticity” in his groundbreaking *Principles of Psychology*, suggesting that behavior is flexible and adaptable (James 1890). This remarkable ability enables humans to acquire new knowledge, refine skills, and adapt our behaviors throughout life, shaping both our cognitive development and motor functions in response to experience and practice. However, at the time, it was thought that the actual structure

and function of the brain itself were fixed after childhood. For decades, neuroscientists believed that changes in the brain could only occur during early critical periods. But research since the 1970s has overturned this view, showing that the brain is capable of remarkable adaptation and reorganization throughout life. This ability, known as neuroplasticity, allows the brain to adjust and modify its networks in response to experience (Costandi 2016). Neural networks—intricate systems of electrical and chemical signals—are the key players in this process, reworking functions by forming new pathways. This can involve everything from individual neurons creating new connections to large-scale changes, such as cortical remapping, where entire regions of the brain take over functions previously handled by others (Voss et al. 2017). These changes can be triggered by learning, practice, environmental factors, or even psychological stress (Dayan and Cohen 2011, Davidson and McEwan 2012, Fuchs and Flügge 2014). We can harness neuroplasticity in our journey as singers, even overcoming mis-wired circuits. It was neuroplasticity that allowed me to retrain my own lost voice. Studying this process opens up a whole new direction in vocal pedagogy, one that capitalizes on the unique evolution and neuroscience of vocalization.

It started in early March 2007. Eight months into a stressful pregnancy, I woke up to brush my teeth and found I couldn't spit. When I looked in the mirror, I saw an unfamiliar face. I feared I'd had a stroke. After a trip to the ER, I was diagnosed with Bell's Palsy, a condition caused by damage to the seventh cranial nerve (CNVII). The doctors reassured me that Bell's Palsy typically resolves on its own within a few weeks, with 85% of cases showing full recovery and minimal nerve damage. Nerves, like wires, transmit information through axons coated with myelin, a substance not unlike the plastic coating around a phone charger. In most cases of Bell's Palsy only this myelin sheath is affected, leaving the rest of the nerve pathway intact. I was prescribed steroids and antiviral medication just in case, and told not to worry.

But I looked terrible—droopy and expressionless. Weeks passed, then months, with no improvement. After three months, I saw the doctor again, alarmed by the lack of progress. I vividly recall that first neurologist visit when the MRI results came in. The doctor was silent as he examined them, then ordered EMG tests to check my facial muscles. When the electrodes were placed, the monitor showed nothing—no signal at all. It was as if the machine were malfunctioning. The neurologist, with a grim expression, told me:

> "Heidi, I'm afraid the damage is severe. One of the worst cases I've seen. There is complete nerve death in all of your major facial branches. The MRI shows the damage is high up, close to the origin point. The prognosis is not good. I'm sorry."

“I’m sorry.” I heard those words echoing through my mind: I’m sorry you lost your face. I’m sorry you look so different. I’m sorry you have a speech impairment. I’m sorry strangers will stare. I’m sorry your social interactions will change. I’m sorry you can no longer perform. I’m sorry you’ve lost your top notes. I’m sorry your life is going to be different from now on.

For the next 18 months, I became a bit of a recluse. I couldn’t sing, as my speech was severely affected. During the worst phase of Bell’s Palsy, facial function is completely lost. As the nerves slowly began to regrow—at a rate of about a millimeter per day—they would often fire erratically, causing spasms. These spasms, in their exuberance, would cross-connect muscles that shouldn’t interact. This chaotic regrowth process resulted in synkinesis, which proved even more challenging than the initial paralysis. With synkinesis, random nerve contractions lead to abnormal movements and immobility, not paralysis. For example, I can’t raise my eyebrows due to opposing muscle action, not because the muscles were frozen. When I tried to smile, my eye would squint instead, and my cheek would contract without pulling up the corner of my mouth because my platysma muscle—a thin, superficial muscle located in the front of the neck which contributes to facial expressions by pulling the lower lip and corners of the mouth downward and tensing the skin of the neck—was counter-contracting. The result? Hypertrophy—the kind of painful muscle growth you might expect from excessive weight training, like a mini-Arnold Schwarzenegger living on my face. There is a stark difference between the initial paralysis and the chaotic muscle firing of synkinesis, which is often misunderstood, even by doctors. My face still bears the signs of this chaotic mis-wiring. Beauty must now lie in the eye of the beholder—for I lost any sense of attractiveness. This feature posed challenges on a different front: the social stigma tied to appearance, expression, and vanity. How does this affect singing? My identity as a flirtatious soubrette or emotional lyric soprano was gone. Even if I could sing, it seemed impossible to convincingly portray a character on stage.

From a technical standpoint, my articulation became muddled: the lips, tongue, and jaw were severely compromised. These articulators are crucial for shaping vocal sound and enunciating text, but mine felt like they were jumbled in a box and violently shaken. Even laryngeal function was compromised: two muscles, the posterior digastric and the stylohyoid, which assist in elevating the hyoid bone during swallowing, are also innervated by the seventh cranial nerve (CNVII). Some of the spasms I experienced even caused frightening choking episodes. For a classical singer, laryngeal stability is critical, and I had no idea how this would affect my voice long-term. I noticed that I had lost about a perfect fourth of my upper register, possibly due to laryngeal asymmetry

or restricted cricothyroid movement. Interestingly, there was another famous singer who experienced a similar issue: the renowned Danish tenor Aksel Schiøtz (Blyth and Schiøtz 1971, Schroeder 2009). After undergoing surgery for an acoustic neuroma, which damaged his CNVII, Schiøtz lost the ability to both articulate clearly and sing in his upper register. Yet, as David Schroeder writes in the book *Our Schubert*, Schiøtz, after a temporary hiatus, retrained himself to perform years later (Schroeder 2009). However, like me, he lost his high notes and was forced to transition from tenor to baritone and had only limited performances. I thought to myself, “If only Schiøtz had left me a roadmap…”

Our mental representation of where our body parts are and how they move in space functions as a kind of roadmap for motor behaviors (Marshall and Meltzoff 2015). Babies begin creating this map from an early age, reaching for objects and babbling as they form the mental templates for movement. When I was injured, my body map had been erased. My brain was sending signals to muscles that no longer existed, or were in new locations, or were firing uncontrollably. Rebuilding my body map became a driving passion. To activate neuroplasticity, I returned to the scientific methods I knew well.

At first, I found myself reading articles about phantom limb patients, whose brains continue to signal limbs that no longer exist (Grüsser et al. 2003). The parallels between my situation and theirs were striking. One technique often used with phantom limb patients is mirror therapy, where a mirror is placed in front of the remaining body part, and the brain perceives the reflection as the lost limb, sending signals as though it were still there (Herrador Colmenero et al. 2018). I tried this approach, but because facial movements are bilateral, I didn’t achieve the results I hoped for. But from a pedagogy standpoint, mirrors are excellent external sensory tools for all singers.

Next, I focused on how the brain signals the vocal apparatus. This led me to an area of study called vocal learning— a skill unique to humans and songbirds, but not our closest primate relatives (Erickson 2022, Jarvis 2019). Our singing brains are actually more akin to songbirds, not primates. We are part of a rare group of animals (vocal learners) which came about through convergent evolution (e.g. sharks and dolphins). It is a duplication of a vocal motor pathway which gives us the ability to listen, mimic, change pitch on command, and generate new syntax. It is shared by whales, dolphins, bats, seals, songbirds, parrots, and hummingbirds. The structure and functions overlap at the micro and macro level, which include 55 genes that are not present in our nearest primate ancestors despite sharing 99% of our DNA. Therefore, our vocal mechanisms may be evolutionarily related to chimpanzees, but our brains are not. This is the main

reason chimpanzees cannot sing but we can. The brain is the key to our singing abilities, not the mechanism.

By diving deeper into the neuroscience of how the brain coordinates the voice and articulators, I discovered that I could retrain my vocal system. The brain's neuroplasticity allowed me to change the way it signaled my voice by incorporating the auditory-to-motor feedback loops that we all rely on when learning to sing. The vocal learning brain has a very distinct pathway. Everything we speak or sing is calculated in advance and based on previous experience. It starts with an internal auditory signal ("hearing in one's head" or "audiation") which we do unconsciously. Thus, the key for me was to utilize this auditory feature to reconfigure the vocal motor planning process executed by Broca's area in the brain. This complex process is the penultimate step in the vocal motor system and serves as the recipe for the sensorimotor cortex, which coordinates and signals the over 100 muscles necessary for singing and speech. Broca's area is directly influenced by signals from Wernicke's area near the auditory cortex. The brain toggles messages between Broca's area and Wernicke's area via the arcuate fasciculus, and these signals are strengthened via experience (and connections are actually stronger in trained singers (Halwani et al. 2011)! It was this pathway which needed re-wiring and required the most attention. I was able to improve the feedback loop for my altered vocal motor system by consciously adding audiation to my singing protocol as a deliberate and separate step. My motor planning had to be changed to adapt to the new muscle configurations. Prior to this practice, my disability led to a mismatch: predictive signals sent from Broca's area to my sensorimotor cortex were based on my OLD instrument, not my DAMAGED instrument. So of course, there were error messages! But over time, my brain recognized the changes and adapted accordingly.

Like any good scientist, I applied a simple, reductionist approach in the early stages—separating out parts from the whole. Patience was critical, and to make the process less frustrating, I tried to make it fun. I started with the hardest consonant—the [p] sound—which I couldn't pronounce at all. I would sit in front of a mirror and silently mouth words with [p] sounds, like "pat," "happy," or "Papagena!" Slowly, my brain began to reconstruct the sound, and one day, "Papagena!" just came out. It was not perfect, but it was real. I had cracked the code, and the key to that breakthrough was focusing on hearing the sound in my mind with great detail (audiation and rerouting my arcuate fasciculus), practicing, and embracing my mistakes. I played a lot, was silly, and just did target practice without worrying about accuracy. This process also entailed separating the laryngeal mechanism from the articulatory mechanism, which we now know is context-dependent based on temporal-spatial restraints, not separate articulator movements.

That's the vocal learner's approach, just like a songbird!

Over time, my body map began to re-form, and I could sing again. It wasn't the same voice I once had, but it was mine, and I had to accept and embrace this new version. Acceptance was the final, crucial step. The psychological piece that is so important to hone for ALL singers, not just those of us who battle disability. Today, I continue to sing, grateful for the voice I've rebuilt.

My experience with voice loss has become a metaphor for vocal pedagogy: every time we sing will be a unique experience, fueled by the mental and physical states of the moment. We operate in a brain-body-environment continuum that is always changing. The voice is a dynamic instrument and the most complex motor system humans have, forever shaped by context. Understanding how the brain adapts and changes can help us design better strategies for all singers, but especially those grappling with vocal challenges.

In a strange way, I am grateful for my disability—it taught me more about myself and the vocal art than I could have ever anticipated. I didn't only sing again despite predictions to the contrary—I am actually singing better than before and enjoying teaching the incredible science I have learned during this process. I firmly believe that an understanding of how the brain signals the nuanced elements of vocalization can revolutionize the field. Mechanistic focus in our art leads to a certain rigidity in pedagogy that is less accommodating of mechanistic changes, including aging. We now know that vocalization has a unique cortical space in the brain. Dr. Edward Chang at UCSF (the University of California, San Francisco) has created an incredible, detailed, and mind-blowing vocal motor map (Bouchard et al. 2013), and we can use these ideas to guide us. Imagery, metaphor, play, and variety are also extremely useful in providing the brain with diverse inputs to refine an ever-changing motor system, just like babies learn their motor skills! Singers give up when perhaps they need to consider a reductionist approach coupled with play to rewire the brain rather than assume their mechanism is no longer capable of making sound. It is my hope that these lessons from facial nerve palsy can help singers with a wide range of disabilities explore their unique instruments. We can change and adapt to a new situation, and that should give all singers hope.

Glossary

audiation: hearing music in one's head. "Audiation takes place when one hears music through recall or creation (the sound not being physically present except, of course, when one is engaging in performance) and derives musical meaning, as compared to aural perception when one listens to music actually being performed by others" (Gordon 1977, 2).

Bell's palsy: a condition that causes weakness or paralysis facial muscles, on one side of the face.

context-dependent memory: a memory whose recall is influenced by the context of its encoding.

formant: a cluster of amplified acoustic energy around a particular frequency in a wave form, dependent on the shape of the resonator. In speech and singing, the resonator is the vocal tract.

neuroplasticity: the ability of the human brain to adjust and adapt to change.

part-dependent memory: a memory whose recall is influenced by a person's state when the memory was encoded.

posterior digastric (posterior belly of the digastric): one in a pair of muscles in the neck, part of the processes of chewing, swallowing, and speaking (Tranchito and Bordoni 2024).

seventh cranial nerve: the facial nerve CN VII, with motor and sensory fibers.

synkinesis: in involuntary muscle movement connected to a voluntary muscle movement.

stylohyoid: a muscle in the neck running between the hyoid bone and the base of the skull, part of the processes of chewing, swallowing, and speech (Rathee and Jain 2023).

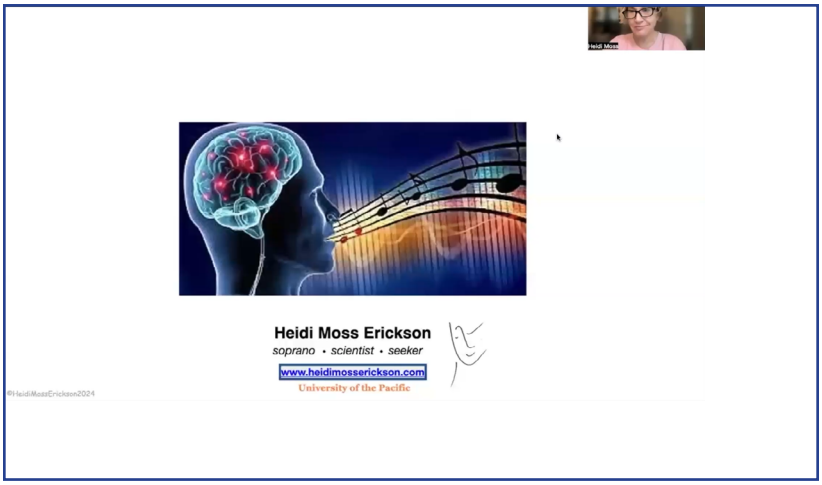
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Supplementary Video



Click the image above to view the video or click here:
https://www.youtube.com/watch?v=O628FHv8IWQ

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Further Resources

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Author Biography

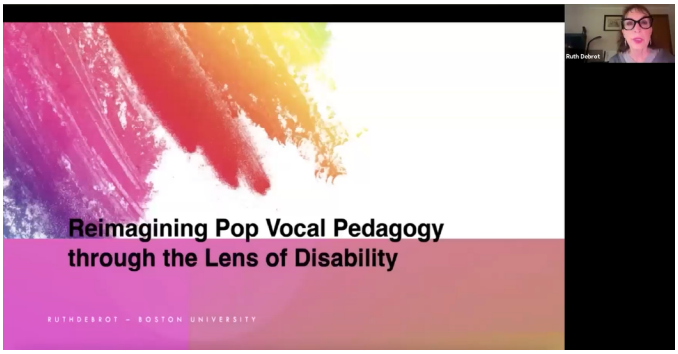
Heidi Moss Erickson is an Assistant Professor at the University of the Pacific. Heidi received a dual biology and voice degree at Oberlin where she worked in the voice lab of Richard Miller. Her more than 20-year performing career spans both opera and concert repertoire, with a focus on new music. Her scientific achievements include a landmark paper in *Cell* showing that the ends of DNA in telomeres are looped.

In 2007 she came down with a rare CNVII nerve injury which resurrected her passion for how the brain controls the voice. Her courses and lectures have been featured both nationally and internationally at conferences and universities, including Rènee Fleming's Music and Mind series. Her many published writings link neuroscience with vocal pedagogy, therapy, and rehabilitation and she is currently working on a book. She is married to composer Kurt Erickson and they share music, many children, and many cats.

9. Reimagining (Pop) Vocal Pedagogy Through the Lens of Disability

Ruth Debrot

For supplementary material, please click here: ***COMING SOON***



Click the image above to view the video or click here:
https://www.youtube.com/watch?v=neuuv0nLF_Y

The transcript is below.

[Video Transcript]

Hello. I'm here to present my research, called "Reimagining Pop Vocal Pedagogy Through the Lens of Disability." My name is Ruth Debrot. I'm an older white person who identifies as female. In this photo, I'm wearing glasses and a leather jacket. Presently, I'm a professor in music education at Boston University.

My background is that of a classically trained singer. However, I have extensive experience performing commercial music, jingles, pop music, country, rock and jazz. The reason I engaged in this study: because I found a need to develop student-centered pedagogical strategies for pop vocal pedagogy in higher education.

I found the need when I began teaching Spencer, an undergraduate music student with a disability known as CRPS, Complex Regional Pain Syndrome. CRPS is a chronic disorder that isn't always visible, but causes a person to experience pain that is quite

severe when there is a flare up.

Spencer, a singer and songwriter, wanted to improve his singing, but he could not engage in traditional vocal training exercises. In fact, Western classical singing caused him to have a great deal of pain. So working together, we tried to develop a pedagogical approach centered on popular singing, and we engaged with the understanding that we wanted Spencer's voice to remain unique, but he wanted to be capable of expressing a wide range of emotions.

So to avoid pain, we looked for strategies. I incorporated metacognitive strategies—that is, strategies that helped Spencer think about what he was doing with his body and mind during the singing, rather than trying to achieve a beautiful sound. It's important to remember that classical singers are trained in the same way, usually the bel canto approach. In contrast, pop singers are encouraged to be individual and to make their own aesthetic decisions, and develop a style that is personal.

What was really important for me to learn was that pop singers develop their own aims and are more likely to experience personal growth, self-acceptance, to develop emotional creativity, and even experience healing. And we saw some of that in the results of this study. The other thing that Spencer confronted in the vocal studio was that [while] standardized approaches may be taught and assessed equally, they do not necessarily meet the needs of students with disabilities.

So I met Spencer, a singer and composer, at one of our school jam sessions, and Spencer approached me about taking some voice lessons, so I agreed to work with him. When I started working with Spencer, I realized that I wasn't going to be able to teach using pedagogies that I knew. So I needed to develop strategies for teaching that were more generative and involved artistic risk-taking, music exploration, and most importantly, we found, was critical dialogue.

And that involved weighing what we did, and discovering what was effective and what was not, and making a decision about what to use and what not to use. And the other thing that I needed to learn from Spencer was how to be more responsive and accommodating and flexible to accommodate his disabilities, which were sometimes not a problem, and other times were debilitating.

We used a critical performance theory framework. And again, the criticality was to see what our practices were and what the culture of the college was, and to try to develop

strategies that were more accommodating for students with disabilities. So Spencer and I worked together, and we engaged in a generative process, which meant that we had no real plan. We experimented. We invented things, and then we would talk about how they worked or didn't work. And we collected data, and analyzed our dialogue in the classroom, and came up with some conclusions.

Our data analysis was basically going through the videos and seeing what worked and what didn't. And then, I documented Spencer's progress over time, which was a very, very important thing.

This is Spencer's video, and you will see that when we started working together, he was not in a wheelchair. However, during our time together, Spencer developed COVID, and from COVID, because of his autoimmune system, he ended up having a stroke, and was in a wheelchair for the remainder of our time together. And you will see that in this video.

[*video clip: a young light skinned man with dark hair in a white buttoned shirt and pink trousers sits in a chair, playing a guitar and singing*]

[*instrumental*]

Fly high, Icarus

Fly higher than them all

But know that the higher that you fly,

The further you will fall.

[*new video clip: Spencer is standing in front of a piano holding a microphone*]

I bought you flowers to say sorry not too long ago

I didn't realize

it was time for me to let you go.

I bought you flowers on the day

you broke my heart.

They sat for hours, days and weeks

Until they fell apart.

And you'll never know how much

Those flowers meant to me.

'Cause you'd lie and say

That we were always meant to be.

And these flowers don't,

And these flowers

won't mean anything,

And these flowers,

And these flowers don't,

won't mean anything to you.

[*New video clip: Spencer sits in a wheelchair holding a microphone*]

And then,

[*humming*] All the flowers

will never mean the same to you anyway.

I bought you flowers

on the day you broke my heart.

They sat for hours until the

day they finally fell apart.

I bought you flowers to say sorry.

Not too long ago.

I didn't realize

it was time for me to let you go.

I bought you flowers on the day

You broke my heart.

They sat for hours, days and weeks

Until they fell apart.

And you'll never know how much

Those flowers meant to me.

'Cause you would lie and say

That we were always meant to be.

And these flowers don't,

And these flowers won't mean anything.

And these flowers don't,

And these flowers

Won't mean anything to you.

[**Dr. Debrot**]: So what do you want your face and your body to say to the audience at the end of this song?

[**Spencer**]: That's a good question. Because the emotion of the song—That's a... that's a depressing last line.

[**Dr. Debrot**]: All right, so what—because this is like going to be the last

[**Spencer**]: performance—

[**Dr. Debrot**]: statement that you make. And it need--your body needs to match what you just did musically.

[*Spencer sings*]:

And the ooo

Oh it's crazy.

Yeah. It's crazy.

The ooo

but I love you

Yeah I just love you.

[*video clips end*.]

[**Dr. Debrot**]: So thank you for watching. You can see that there was a lot of vocal progress from the very beginning. And Spencer learned to sing without tension. He was taking artistic risks and he was able to do so from a wheelchair in a manner that was emotionally expressive and very natural, and that was his goal for singing. So, he was able to complete his BA and do a capstone performance, and it went over very well. And we both learned a lot.

Spencer found that our dialogic experimental process was very effective,and he appreciated the fact that I was flexible during our time together sometimes, that we would have remote lessons because he couldn't leave his apartment if the weather was bad or if he couldn't walk that day. The bottom line for me was I was always there. And so--I and it wasn't easy for me because sometimes it would be very inconvenient, but I always made the effort.

Questioning was a very effective teaching tool, and technology was very, very important for our success. So we had a lot of interesting outcomes, but, basically, sharing the experience in the classroom, using digital devices as learning tools to make the classroom accessible, and to encompass unexpected, changing realities. And then, of course, to be present for students in the vocal studio was very important.

And so to conclude, I hope that some of the things that we found can help other disabled musicians feel like they can, and to influence other vocal music teachers, to make spaces and to become more accessible, and improve learning conditions in music education so that all students can participate. That would be the bottom line. You can see Spencer on Spotify. It's Spencer Hart-Thompson [*see resource list*], if you want to look him up, and you can reach me, rdebrot@bu.edu. I want to thank you so much for watching today. Take care.

Footage, music, and lyrics used with permission from Spencer Hart-Thompson.

Glossary

Complex Regional Pain Syndrome (CRPS): an umbrella term referring to long-term pain and inflammation that is triggered by an injury, surgery, or other medical issue (Complex Regional Pain Syndrome 2024).

metacognition in learning: metacognitive strategies help students to learn in self-directed ways. Gregory Schraw suggested three primary metacognitive skills: planning, monitoring, and evaluating (Schraw 1998, after Jacobs 1987)--students should engage with the actual process of learning and be self-aware during each step throughout.

Critical Participatory Action Research: a research method "that fosters engagement between researchers and communities that seek to document, challenge, and transform conditions of social justice" (Hill and Knox 2021, n.p.).

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Author Biography

Ruth A. Debrot espouses a joyful approach to music-making. Presently, she is a Senior Lecturer in music education at Boston University and the Coordinator of Practicum and Licensure. Her journal publications include *Frontiers in Psychology* and *The Journal of Popular Music Education* and the *Massachusetts Music Educators Journal*. She has contributed book chapters to *Living Song: Singing, Spirituality, and Wellbeing*, *Points of Disruption in the Music Education Curriculum*; Volume 2, and *Methodological Musings: Thinking with Narrative in Music Education Research*. Research presentations include the Association for Popular Music Education, Desert Skies Research Symposium, the Mayday Colloquium, the National Association for Music Education, and NIME 8. She is a co-organizer for the Play On Music Festival; a festival centered on performances by non-traditional ensembles in the Boston area. When she is not teaching, Ruth enjoys singing and performing in her rock band Notorius Jones. She is the vocalist for the Roy Scott Big Band, and the keyboard player for the Blue Moon Orchestra. Prior to teaching at BU, Ruth enjoyed a highly successful career as a middle school music educator.

III. Temporality and Change: Teaching Students with Chronic Illness, Progressive Disability, and Vocal Injury

10. What I Wish My Teachers Had Known When I Was in School - and What I Wish I Had Known to Tell Them: Navigating Chronic “Invisible” Illness in the Voice Studio

Molly Noori

Audio of this chapter is available here: https://www.youtube.com/watch?v=FuwkJNx-6Lc

A chronic illness is as a long-term health condition that doesn’t have a cure, and it can affect a singer’s daily life in significant ways. When it’s “invisible,” meaning the symptoms aren’t obvious to others, it can be even harder for people to understand. On top of that it is almost always considered to be a “dynamic disability,” which means the symptoms can look different from day to day or even moment to moment. This captures how unpredictable these conditions can be and how difficult it can be for the person living with them to have a strong grasp on what is happening in their body, or to be able to advocate for themselves. This has certainly been my experience.

For singers with chronic illness, this unpredictability can be one of the hardest challenges to deal with. The voice naturally fluctuates as we grow and even from day to day, but when you add health challenges into the mix, especially while someone is still learning how to use their instrument, it can be incredibly frustrating for both the student and the teacher. It’s not always easy to figure out what’s caused by health issues and what’s just a technical problem.

Instead of thinking in terms of “when to push through versus when to back off,” it can be more helpful to reframe it as “when to explore versus when to reroute.” This mindset encourages flexibility and creativity while respecting the singer’s comfort zone and their bodies’ limits. It allows space for both growth and self-compassion, helping singers build a stronger connection with their voice without overloading themselves.

How Might Chronic Illness Manifest in the Voice Studio?

Singers will inevitably have to deal with their symptoms in unexpected ways during lessons, and it often requires extra patience and adaptability from both teachers and singers. Here are some examples I've encountered personally and see all the time in my studio:

- Extremes of Support: Muscle tension is a common symptom for people with chronic illness. In singers this can lead to over-supporting or "locking" the muscles. Based on the sound a student produces, it might seem like they're not supporting enough, but in reality, they could be overcompensating. Adding more muscle engagement to "fix" the issue often makes things worse. The opposite issue can also occur, sometimes even with the same singer in the same session. If the singer is feeling very fatigued, trying to avoid worsening pain, or gets dizzy or overheated they may stop supporting altogether. Paying close attention to the way the singer is managing their breath becomes a pivotal part of effectively navigating changing symptoms.

- Muscle Spasms: Some students deal with muscle spasms during lessons. Encouraging gentle movement, like active rubbing or stretching of the neck and laryngeal mechanism, and keeping the tongue mobile while singing can help. When a student is experiencing this kind of discomfort before or during a lesson they might feel tempted to avoid singing out of fear of injuring themselves. In many cases, working through that discomfort with healthy technique can actually leave them feeling better afterward. It's similar to massaging a sore muscle or going for a run to relieve stress: the activity itself helps release tension and, as a bonus, singing stimulates the vagus nerve, which can help alleviate some of these issues as well.

- Dizziness, POTS, and Breathing Challenges: For students with conditions like POTS (Postural Orthostatic Tachycardia Syndrome), dizziness can make standing, being upright at all, and even breathing more difficult. They might also struggle with heat sensitivity, feeling overwhelmed in stressful situations, or light and screen sensitivity (e.g., viewing sheet music on a device or being in a room with fluorescents). If a student can't yet recognize or articulate what they're feeling, these symptoms might look like fatigue, disinterest, frustration, or distraction. In these cases, they might just need a quick break, a change in position, water, or a less stimulating environment. Accommodations may require some creativity but usually can be made pretty easily.

- Mental Health Connections: Emotional and psychological responses can complicate things further, especially when a chronic illness hasn't been diagnosed yet. Mental health challenges (like anxiety, depression, Obsessive-Compulsive Disorder) often accompany chronic illness and can impact singing. For example, singers with anxiety or OCD might get stuck in their heads, overanalyzing everything. These students often benefit from kinesthetic activities, character study, or exercises that take the focus off technique. Focusing too much on technique in these cases might actually increase tension, especially if there's an underlying connective tissue disorder contributing to muscle spasms or tightness. Like other chronic illness symptoms, anxiety and depression often present differently from person to person, so it is important to remember that anxiety, for example, may look very different from singer to singer. It may even manifest one way in the studio and another during performance. I'll never forget when I was in college and chose to tell my voice teacher about my anxiety, and she said, "Oh, I didn't realize. You don't look anxious." She of course didn't mean to be offensive but statements like that overlook the complexity of these issues and make the student feel unseen and misunderstood.

Understanding these intricacies is crucial to creating a supportive and productive environment for singers with chronic illness. Flexibility, empathy, and open communication can go a long way in helping students navigate these challenges while continuing to grow as artists.

Why Don't We Talk About It?

There's a long-standing culture of silence in the vocal community, particularly in classical and opera circles, where discussing anything that might make a singer seem "less than perfect" is often avoided. This culture isn't just a remnant of older generations—many younger, active teachers and singers also fear addressing these issues openly. The pressure to appear flawless in an industry that prizes perfection can feel pretty lonely and hopeless, as it discourages open conversations about challenges like chronic illness or mental health.

This avoidance often trickles down into the voice studio—or perhaps it is created there? Many teachers hesitate to discuss anything medical or psychological with their students because they feel it's not their role, or worry about overstepping their expertise. While it's true that teachers shouldn't diagnose or prescribe, they can play a critical role in supporting their students by listening, making informed suggestions, and guiding them

toward further resources. Vocal health is not just about technique; it's about the whole person, and acknowledging that helps create a safe, supportive space for students.

Another layer of complexity in chronic illness is that it manifests differently for everyone. Symptoms can vary widely, even for those with the same diagnosis, and people experience and interpret them in unique ways. For example, someone with fibromyalgia may notice minor symptoms that create subtle changes to their daily life but have a significant impact on their voice, like increased tension or a reduced ability to sing freely due to pain. Another singer with the same condition might not connect their symptoms to their vocal challenges at all. This variability makes it even more important to have open conversations—not to diagnose, but to recognize patterns and understand how one's health, and their own perception of their health, influence their vocal performance.

The stigma around chronic illness often prevents people from speaking up, which limits understanding and progress. Singers might feel ashamed of conditions they can't control, even though those conditions don't diminish their artistry or ability to do their job. When these topics remain taboo, we miss opportunities to learn more about how chronic illness affects the voice, to improve resources for managing these challenges, and even to secure funding for research and healing.

By fostering open dialogue and breaking the silence, we can create a more inclusive, informed, and supportive vocal community—one where every artist feels empowered to embrace their whole self, both on and off the stage.

Why Don't the Students Talk About It?

One of the biggest barriers to open communication in the voice studio is the lack of a safe space. Students need to feel comfortable sharing their experiences without fear of judgment or dismissal. Often, they stay silent because they've tried talking about their challenges in the past and encountered people who didn't understand, seemed uncomfortable, or dismissed their concerns. Opening up about something as personal and complex as a chronic illness can be terrifying—it's emotionally exhausting and often requires lengthy explanations, leaving singers feeling defensive or high- maintenance. This can shift the focus away from their art, which is the last thing they want. It may not be possible for a student to feel completely safe, especially if they are dealing with so much unknown about their body and illness. While they may never feel totally safe in context of their illness, I do believe it is possible for a teacher to build a rapport with the student that allows them to feel safe as a human. They may be feeling unsafe to a

certain degree all the time, even outside your studio. All we can do as teachers is create a zone for them to feel less unsafe, and unjudged, and free to create and explore. Perhaps their “unsafe volume dial” can be turned down a bit during their time with you.

Another reason students may not speak up is that they don’t fully understand how their invisible illness affects their voice. Many singers will say, “It hasn’t really affected my singing,” while recognizing that it impacts other areas of their life. This disconnect often stems from a lack of awareness about how certain disorders manifest in the body and voice or perhaps from a lack of understanding of vocal pedagogy in general. Medical professionals also tend to have limited knowledge of how chronic illnesses specifically impact the voice, further complicating things for singers trying to puzzle all the pieces together.

For some students, the silence comes from not having a diagnosis at all. It can take years to get answers about chronic illnesses for various reasons—health insurance barriers, lack of access to specialists, or the complexity of symptoms that don’t fit neatly into one box. The average time to diagnosis for many chronic conditions is still unacceptably long, leaving students navigating symptoms without clarity or validation. As I mentioned earlier, this can cause or exacerbate mental health issues the student may be dealing with. It is very easy to become overwhelmed and shut down in response to the gaslighting, inefficient, and, for many, absurdly expensive and completely inaccessible world that makes up all healthcare systems.

As voice teachers, it’s important to create an environment where students feel supported and empowered to share their experiences. By fostering open conversations, we can help them understand how their health may intersect with their artistry and guide them toward resources to manage these challenges—all without losing sight of the art that brings them to the studio in the first place. The last thing we want is for a student to stop singing because they are frustrated or feel it is hopeless.

What Can You Do in Your Studio?

Creating an inclusive and supportive learning environment starts with education, visibility, and open communication. Here are key thoughts to consider:

1. Normalize Chronic Illness in Your Studio and Voice Department
    - Promote Visibility: Make discussions about accommodations and chronic illness part of the norm, not the exception. For example, you could use a

regular convocation or departmental meeting to educate students and faculty about accommodations, emphasizing their importance and accessibility. Visibility reduces stigma and fosters understanding. This should be done organically and by example as to not single out the students with disabilities.

- Encourage Questions: Students often don't know what questions to ask about their health, much less how to connect those questions to their vocal challenges. Guide them in forming the right inquiries and offer a safe space for exploration. This requires consistent effort, clear communication, and mutual education between teacher and student.

2. Establish Open Communication and an Investigative Attitude
    - Approach Chronic Illness with Curiosity and Adaptability: Just as every voice is unique, so is every experience with chronic illness. Invite your students to share their symptoms and challenges, and work collaboratively to find strategies that address their specific needs.
    - Differentiate Between What is a Technical Issue and What Stems from Chronic Illness: Sometimes vocal challenges need technical adjustments, while other times the body simply needs time and space to heal or adapt.
    - Be a Super Sleuth: More often than not you will be without answers. Remain creatively investigative in collaboration with your student. This will likely lead to answers or solutions and will reassure the singer that you care and are going through the journey with them.
3. Encourage Vocal and Emotional Health Practices
    - Prioritize Vocal Health: Help students maintain vocal health even during illness by teaching them how to care for their voice. Encourage ongoing study and exploration of techniques that work within their potential physical limitations. This may look very similar to the vocal hygiene of an able-bodied singer, or it may need some significant customization.
    - Develop Accessible Processes: Advocate for, and empower your singers to advocate for, a more accessible audition and rehearsal process. Having a chronic illness doesn't mean a singer can't perform well, but it may mean they need different supports to succeed. The focus should be on ability and artistry, not rigid conformity to traditional processes.

- Get Out of Your Head: Encourage students to let go of fear surrounding their body's limitations. It's difficult to sing freely and without tension when you're afraid of your body failing you or causing pain.

- Be Creative: Acknowledge that addressing technique isn't always the solution. Instead, support your students in emotionally accepting their body's current state and finding ways to sing freely despite physical or emotional constraints. This may require a somewhat non-traditional approach in the studio.

4. Build a Network of Medical Professionals

    - Collaborate with Specialists: Recommend that students with chronic illness establish relationships with an otolaryngologist (with proper, updated equipment) and other medical professionals who can support their vocal health. Regular assessments from trusted professionals can make a significant difference in the singer's journey and their confidence.

    - For Autoimmune Disease: For singers with autoimmune conditions, understanding how their illness impacts their voice—whether through muscle tension, rheumatoid nodules, or other symptoms—requires collaboration with doctors who are familiar with how the voice works and how complex illnesses affect vocal function both directly and indirectly.

    - Plan for Recovery: Remind students that recovering from even routine illnesses may take longer if they have a chronic condition. Patience and proactive care are key.

By fostering understanding, providing resources, and addressing both the technical and emotional aspects of singing with chronic illness, you can create an environment where your students feel empowered to thrive as artists, even amidst the daunting challenges they are facing.

Navigating the Dynamic Nature of Singing with Chronic Illness

The dynamic and unpredictable nature of a singer's disability is one of the most difficult hurdles to overcome. For singers, this unpredictability often leads to insecurity about their voice. On any given day, they may feel unsure about what sound will come out—

especially when their symptoms fluctuate or significantly impact their ability to function as they normally would.

The question then becomes: how can singers mitigate this uncertainty and regain a sense of control and confidence in their instrument?

1. Experiment with Tools: Incorporate physical aids, for example, heat or cold compresses during practice or performance, to help manage symptoms. These tools can be personalized to what works best for the singer, offering immediate relief and support.

2. Establish a Routine: Develop a daily vocal routine that helps condition the voice to its optimal state despite the ever-changing nature of chronic illness. This consistency can serve as a stabilizing force in an otherwise unpredictable situation.

3. Create a “Grab Bag” of Strategies: Encourage singers to discover and regularly use a set of reliable techniques and tools—whether it’s hydration methods, stretching exercises, or mindfulness practices—that help reduce symptom intensity. Having these tools at their disposal can empower them to manage symptoms effectively, even on challenging days.

4. Focus on Confidence-Building: The ultimate goal is to equip singers with the confidence to trust their voice, even when their health fluctuates. Knowing they can rely on their routines and tools to prepare for performance day is a critical step toward reclaiming control over their artistry. Ultimately the best way to do this is to give your students a solid technique that they can utilize on a daily basis and hone as their superpower.

Glossary

chronic illness: a long-term health condition that has no cure.

dynamic disability: a disability that fluctuates in severity, symptoms, and/or impact (see also Jimenez and Ko). Symptoms can look different from day to day, or moment to moment.

invisible illness/disability: an illness/disability whose impact is not easily apparent to someone looking. Also referred to as non-visible, hidden, or non-apparent. Some disabled thinkers reject the term “invisible” as dependent on the medical model of disability, as centered on the experience of the observer rather than the person with the disability, and as exclusive of the variability of illnesses/disabilities that are sometimes visible and sometimes not (Détournement 2025).

vagus nerve(s): primary part of the parasympathetic nervous system (which controls functions such as digestion, heart rate, and blood pressure). The parasympathetic nervous system is in turn part of the autonomic nervous system.

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Détournement. 2025. “Invisible Disability?” Medium.com. May 20. https://medium.com/@detournement/invisible-disability-b2248d6db6fd.

Further Resources

Molly Noori: https://www.mollynoorimezzo.com/

Noori, Molly and Cristina Jones. *The Disabled Divas Podcast*.

- Apple Podcasts: https://podcasts.apple.com/lv/podcast the-disabled-divas-podcast/id1805880307
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- Audacy: https://www.audacy.com/podcast/the-disabled-divas-podcast-9980c/episodes
- iHeart: https://www.iheart.com podcast/1333-the-disabled-divas-podcas-272638195/

Author Biography

Molly Noori is a California-based mezzo-soprano known for her “rich, satisfying tone” and “convincing characters” (*Toledo Blade*). In addition to performing, Molly has worked as a voice teacher, vocal coach, music director, and stage director- most notably for Detroit Opera’s long-running summer opera program.

Currently, Molly owns a private voice studio and is a professional photographer who specializes in branding for singers. In 2024 Molly proudly founded her non-profit The Chronicled Voice, an organization that is cultivating awareness and creating change for singers with chronic illness and disabilities.

Upcoming projects include the release of her debut album *My Black Swan Songs*: 15 art songs by four composers and 3 librettists based on true stories from Molly’s life which address heavy hitting topics while celebrating themes such as tenacity, resilience, and the human voice. Molly is also thrilled to be premiering a mono-opera, still in the works, with librettist Kendra Preston Leonard, which celebrates the life of disability rights advocate Judy Heumann.

11. Teaching and Learning How to Sing with a Progressive Disability

Diane Kolin

Audio of this chapter is available here: https://www.youtube.com/watch?v=r5a_7OBCgXs

Introduction

The aim of this essay is to give tools and techniques to voice teachers who teach students with progressive disabilities, and to voice students with progressive disabilities. First of all, it is important for me to clarify the scope of the pedagogical tools I will mention: these are applied in the context of educational voice methods of teaching and learning, not in the medical context of music therapy. Though the medical virtues of music are well-studied, they are not the focus of this article. I will speak about pedagogical methods that could be taught by any voice teacher, looking at body position and posture, breathing, balance, stability, and projection. The objective of this article is to give ideas to voice educators to adapt their teaching methods depending on the physical condition of the student with progressive disabilities.

This article is based on my own experience, both as a student and as a teacher with a progressive disability. I have lived and sung in a standing position, with crutches, and in a sitting position. Some adaptations had to be imagined by myself alone, some came to life after conversations with people who lived similar situations, and some after conversations with students. The key is: communication. The student and the teacher must spend time discussing needs and potential solutions, until the right accommodation is found to sing comfortably.

Definitions and Concepts

What is a Disability?

Disability can be defined, identified and mentioned in multiple ways, with associated language that may differ from one individual to the other. Some separate disability and impairment: impairment is a physical limitation caused by an injury, an illness, or a congenital condition, and disability is a limitation of opportunities to take part in society on an equal level with others due to social and environmental barriers (WHO,

1980). The academic field of Critical Disability Studies defines models of disabilities as frameworks to locate and study disability, such as, but not limited to, the medical, social, cultural, economic, and charity models (Barnes 2012, 12-29; Oliver 2013, 1024-1026; Mitchell & Snyder 2012, 42-50).

Supporters of “person-first” language argue that people with disabilities are people first, and that their disabilities are of secondary importance; in other words, they are not defined by their disability (Dunn & Andrews, 2015, 255-264). In this model, one is said to be a person with a disability (the “person” comes first), rather than to *be a disabled person* (the disability comes first, as an identity). Personally, I have no issue claiming that I have a disability. It is part of my identity. However, if I have a preference for person-first language, I recognize that everybody has the right to identify as they wish. The issue with definitions of disability is that they were first suggested by non-disabled people about disabled people, before Disability Rights Activist movements imposed their own views, developing their own definitions to fight those having an ableist view on disability. As a result, the movement called “Nothing About Us Without Us” (Bridges 2003, 233-251) was born, which insists on involving people with disabilities in all aspects impacting their lives, such as legislation, architecture, education, society, and more.

What is a Progressive Disability?

A progressive disability is a disability which evolves by steps. One disability might progress differently for each individual. For example, Charcot-Marie-Tooth disease is a group of hereditary, slowly progressing neuromuscular conditions causing muscle weakness in feet, lower legs, hands and lower arms, compromising mobility, dexterity and balance, causing fatigue, and sometimes also resulting in muscle cramps, pain and tremors. Some people with CMT walk with a cane or use a wheelchair. It does not affect life expectancy or cognition (Barton 2019). Progressive disabilities can affect several zones of the body and the brain, and can have an impact on a voice student’s physical and emotional conditions. Progressive disabilities are sometimes labeled “degenerative.” Though that term is used medically, I prefer the term “progressive,” which comes with more positive connotations. I also prefer to use “change of mobility,” rather than “loss of mobility.” There is a constructive aspect in a change that we do not find in the notion of loss.

What is a traditional vocal pedagogy?

The idea is controversial. As Darren Wicks states it, “ask 100 singing teachers and you’ll get 100 different opinions on how to sing” (Wicks, 2022). There is no traditional vocal pedagogy encompassing all voice teaching methods. However, I will define it as follows: a method consisting of a mix of position and breathing techniques, usually taught standing, with a well-positioned body, legs and feet in the alignment of the hips, allowing a good use and engagement of the diaphragm, with a well-relaxed upper body. Of course, it is much more complicated than that, but it provides a basis.

What is an Adapted Vocal Pedagogy?

An adapted vocal pedagogy is a pedagogical method adapted to the access needs of a student. An access need is anything a person requires in order to fully participate in an activity, whether physical or emotional. A physical access need might be the need to stay seated during the lesson. An emotional need might be the requirement to rest for a few minutes during the lesson, or to discuss the feelings a piece might trigger.

What is Crip Time?

Crip time reclaims the historically derogatory term “crip” (short for the outdated label “cripple”) to describe the time a person with disabilities needs to accomplish a task. This time is flexible and depends on a variety of factors related to the way disability affects the body and the mind (Kafer 2013). Crip time in the voice studio will depend on access needs. It can vary from taking more time for breathing exercises, longer warmups, longer breaks during the lesson, alternative vocal technique that might need more time and discussions between the student, who knows their body, and the teacher, who will adapt a technique. Crip time involves collaboration, exploration, and some testing that might fail, until the right technique is found together.

Vocal Pedagogies Applied to Progressive Disabilities

With regards to singing, a progressive disability can affect, among other issues, body position and breathing. When disability impacts muscles, those involved in the action of the vocal cords (also called vocal folds) might or might not be directly affected, but vocal and physical fatigue can lead to a change in lung capacity and posture. Lower lung capacity might affect the sustainability of the notes, the type of range, and the overall quality of sound. Physical fatigue might affect the capacity to stand for a long time, and balance. However, when these facts are taken into account and understood by both

the student and the teacher, they can become an integrated part of the teaching and learning process.

I will give examples of several scenarios, all based on personal and professional experiences. Since all bodies and all disabilities are different, these stories won't necessarily apply exactly to all steps of an evolving disability, but I hope to provide enough information to let the reader apply it to their own situation. However, I know I will only scratch the surface with these examples. There are cases I've never faced. But whatever happens, there is always a way; we just need to take the time to sit and think of a potential solution. Today, I realize that if the teacher does not accept the need to change their habits to accommodate a student's needs, then the student might not have the right teacher. You have to progress together.

Teaching and Learning in a Standing Position

Needless to say, this is the most frequent method to teach and to learn how to sing. However, traditional methods do not always work for all standing students.

Standing with Mobility Aids

Even invisible disabilities sometimes come with fatigue or balance issues. Communication is key. As a teacher, reaffirm that the student is in a safe space – although safety is a personal feeling which may come with time and trust – and ask them for their access needs. As a student, you might want to alternate between standing and sitting on a chair. Make sure to find the position that makes you feel the most comfortable and relaxed. In my case, I first learned standing, but with the progression of my disease, I had to find a strategy and constantly revise it. When I took lessons in the 1990s and early 2000s, I received a traditional Western singing education that teachers were not ready yet to adapt. Most of the music teachers I knew were transmitting the way they were taught themselves. Thus, I adapted these lessons to my condition alone. Today, with internet carrying information from other parts of the world and teachers documenting what they might try, there is more openness to non-traditional methods. A discussion between teacher and student about access needs is still necessary.

Standing with a Cane

The cane can help to find balance, stay upright, feel more confident. The cane is also an interesting extension of the body. The whole body is included when singing, so it can be an advantage to have a "third leg" or an extended arm. I recently talked with a

singer who uses a cane, who expressed the importance of understanding her cane in the context of the time period and the setting of the work she is singing (see Image 1). It is particularly important in opera where the singer tells long stories. When the cane is included in the narrative of a character, then the role is easier to sing. Think of that aspect of integrating your mobility device into your singing process. If you are a student, talk about it with your teacher. When it comes to disability inclusion, you know best what can help you progress.

Standing with Crutches

This is something I have experienced. What I loved about it is that, with two crutches, I had four legs. This changes the balance, the breathing, and it can even help open the rib cage. The idea remains the same as traditional approach, in which feet should be placed parallel on the ground, aligned with the hips, but you also have to take into account the two extra legs that allow you to slightly lift the body to change the point of equilibrium, thus the voice. This change of equilibrium is difficult to describe and differs for each person. Do some experiments. For me, it was going higher, as if I was floating slightly, allowing me to move to the front and the back more freely. A professional soprano who broke her foot a few days before her final exam, and who had to sing using crutches, confessed to me that she found sounds she didn't suspect just by fully integrating her crutches into her performance, pushing down on the handgrip with the arms to lift her body when she felt it would give her an extra needed sound or voice tone; as a result, she felt like she was singing even better.



Image 1. Robin Hahn in Heroic Opera's production of *The Old Maid and the Thief* (2024), playing Miss Pinkerton. The cane she is using is an actual vintage cane from the period in which the opera is set (1930s).

Photo credit: Kathryn Nickford. Used with permission.

Teaching and Learning in a Sitting Position

Sitting on a Chair

Whether it is because of back issues, legs issues, or other difficulties with standing caused by cardiovascular issues or fainting disorders, fully sitting on a chair can solve potential balance constraints when standing is impossible. It doesn't necessarily mean that you cannot use your hips anymore, even with a loss of feeling or a paralysis of the hips. Sitting is already using the hips. Sitting is just another position of the body to adapt to. If possible, try to be slightly off balance. Don't let your back be entirely supported by the backrest. Move your feet up front, find a comfortable position of the buttocks that leaves a point of controlled imbalance. If needed, add a foam block or a cushion behind the back. Experiment. The idea is to allow points of mobility that are yet unexplored while breathing and singing. But remember to do it only if you feel safe. The idea is not to hurt yourself. Explore your body and see how it can help with the resonance or with sustained notes.

Sitting in a Wheelchair

All the comments above apply. If possible, try to move your feet out of the footrests, or have them moved, to place them on the ground to create a slight imbalance of your back and hips. One of the techniques consists of using your legs as if they were canes to stabilize yourself. If the legs don't hold, try to find a way to move your back slightly forward, away from the backrest, without hurting yourself (*see Images 2 and 3*). If the backrest is needed, find another technique. Feeling comfortable is the key. Once again, experiment. Explore options with the teacher.





Image 2 (*Left*) and **3 (*Right*).**
Two angles of Diane Kolin singing, feet on the ground, back slightly up-front, in a comfortable position on the cushion of the wheelchair.
Photos by author.

Teaching and Learning Lying Down

I've never had to teach students who were lying down, but I had the occasion to talk about techniques for this posture with someone who had to spend weeks in a horizontal position. This student could not hold a score in front of him since he needed to rest his arms, so a solution had to be found to attach a stand to his bedframe and to attach the score (note that today, with tablets, it is easier; there are excellent tools allowing one to hold a tablet, and even turning pages using a Bluetooth-connected page turner or a remote control). No piano was involved; the work had to be done with accompanying tracks of high quality recorded by a pianist he knew (today, the Internet gives options but choose tracks that work well for you). If the student is able to relax the body, breathing exercises are similar to the ones for standing students. As for the other techniques, explore options until you find the one that makes sense to you. Try different vocal exercises and placements.

Conclusion

Singing with a progressive disability is like being an explorer in an unknown territory. You have an idea of what will happen, but you have to improvise to find your own technique and make it evolve. Whether you are a student learning how to sing, a teacher teaching a student with a disability, or a teacher with disabilities teaching vocal technique, the most important point is communication. Your access needs and your "crip time" should always be taken into consideration.

Glossary

adaptive teaching: Adaptive teaching is an approach that tailors instruction to meet the needs of each learner. An example of method that uses adaptive teaching is Universal Design for Learning (UDL). UDL is based on principles that empower everyone to have agency over their own learning. It allows educators and learners to set clear goals, anticipate environmental barriers, create meaningful options, and fully embrace human variability (Universal Design for Learning 2025).

disability: any condition of the body or mind (impairment) that makes it more difficult for the person with the condition to do certain activities (activity limitation) and interact with the world around them (participation restrictions). (University College London. https://www.ucl.ac.uk/equality-diversity-inclusion/equality-areas/disability-equality/defining-disability). (See also: Jimenez.)

progressive disability: some people have disabilities that gradually develop. These types of disabilities are often called “progressive disabilities.” With these types of disabilities, your condition changes over time. As your condition changes, the types of support that you need, including health benefits, work accommodations, and equipment (such as mobility aids devices) also change. (The Basics, n.d.)

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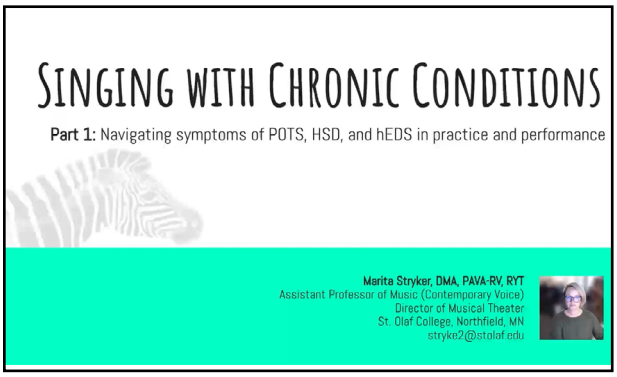
Author Biography

Diane Kolin is a singer, a music educator, and a voice teacher. Her low voice brings her to explore various genres, from jazz to Baroque music and French chanson repertoire. She teaches voice to children and adults. She developed pedagogical tools and workshops for singers with disabilities to learn how to sing with a changing body or from a non-standing position. She is a professional member of RAMPD (Recording Artists and Music Professional with Disabilities), and of the Recording Academy. She frequently performs in North America and Europe. She is a Ph.D. candidate in musicology at York University, Toronto, Canada. Her dissertation focuses on professional musicians, composers, and music specialists with disabilities. She is the founder of ArtsAbly, a company offering diverse activities related to accessibility and disability in the arts, including workshops, lectures, free resources, and a podcast called “ArtsAbly in Conversation,” interviewing artists with disabilities.

12. Singing with Chronic Conditions: Navigating Symptoms of POTS, HSD, and hEDS in Practice and Performance

Marita Stryker

Part 1



Click the image above to view the video or click here:
https://www.youtube.com/watch?v=ckVAlMMufQ4

The transcript for the video is below.

[Video Transcript]

My name is Marita Stryker. I'm an Assistant Professor of Music at St. Olaf College in Northfield, Minnesota, where I teach contemporary voice and am the director of the musical theater concentration. I'm a white woman with blonde hair to my chin and an undercut. I'm wearing glasses and a green sweater.

This first slide contains the title of my talk, "Singing with Chronic Conditions, Part 1: Navigating Symptoms of POTS, HSD, and hEDS in Practice and Performance." And there's a zebra looking on from the side of the screen. In medical school in the U.S., students are told, "when you hear hoof beats, don't expect to see a zebra, because it's much more likely to be an ordinary horse." The saying is a sensible reminder to consider the common diagnoses for symptoms that patients describe, instead of the possibility of rare cases. However, in response, the rare disease community has

adopted the zebra as a mascot, because presenting symptoms could still be signs of uncommon conditions. So if you were curious about why a zebra is featured on the first slide, it's because I'll be talking about a few of these chronic conditions that are actually becoming more commonly diagnosed and discussed, and that we are likely hearing more often in the voice studio and rehearsal hall.

This talk has two parts. There's a lot of information to cover, but if we have a basic understanding of these conditions, the recommendations and accommodations we discuss later will make more sense. In Part 1, I will give an overview of POTS, HSD, and hEDS, how it's diagnosed, and some specifics about symptoms and how they may affect singers. In Part 2 (the second video), I will share a handful of case studies, recommendations, and considerations for working with singers who are navigating these conditions.

According to the CDC website, 25% of Americans live with chronic conditions. 10% of Americans live with one or more invisible conditions. The Women + population is disproportionately affected by these conditions. I, a cisgender woman, came to this research through my own experience with one such condition called idiopathic subglottic stenosis. This causes a buildup of scar tissue in my trachea just below my vocal folds for no known reason. It took me eight years and seven doctors, many of whom tested me repeatedly for asthma, allergies and acid reflux. I was told my chronic coughing was due to a sensitive bronchial tract. I was told chronic cough is often just in a person's head. I only received the correct diagnosis because during my doctoral studies I was observing in a voice clinic and one of the laryngologists suggested I ask for a CT scan of my throat in addition to my previously ordered chest scan--and there it was. My trachea was 50% closed. I've been breathing through a small straw-like closing, which is difficult to detect on normal ENT stroboscopy.

My condition is rare, maybe. There are possible hormonal considerations that are just now being studied, but the lack of understanding in the medical community and the gaslighting of women with rare or complicated hormonal conditions makes me wonder if it may be commonly misdiagnosed. 95% of the time this condition is [diagnosed] among white cis women between the ages of 40 to 60. There are very few resources and a lack of understanding about how it affects the voice. When I was sharing my condition with a voice teacher and mentor that I really respect, they very kindly said I might not be able to pursue performance anymore. And I refused to accept that. As a collegiate voice professor, in recent years I've witnessed an increase of disclosed chronic illnesses in my studio. The most prevalent conditions among them are POTS and EDS. Treating

health conditions is not within the scope of practice for voice teachers. But as some health challenges can affect the voice and a student's ability to reach course objectives, having an idea of how common conditions may affect a singer proves beneficial. As an advocate for my students, my aim is to help them continue to see what's possible.

I'll be using the term "POTS" quite a bit in this presentation. So let's break down the medical definition. POTS stands for Postural Orthostatic Tachycardia Syndrome. Postural means pertaining to the position of the body; orthostatic relating to or caused by upright posture. Tachycardia means relatively rapid heart action. And a syndrome is a group of signs and symptoms that occur together and characterize a particular abnormality. According to the 2011 Consensus Statement, published in "Clinical Autonomic Research," POTS is characterized by a sustained heart rate increment of greater than or equal to 30 beats per minute within 10 minutes of standing, in the absence of orthostatic hypotension. The standing heart rate is often greater than or equal to 120 beats per minute. As of 2018, it was estimated that POTS affected about 500,000 patients in the US, with a more recent study reporting a prevalence of 170 cases per 100,000 people, which today would bring that 2018 total to 566,610, without factoring in a possible increase in prevalence between 2021 and 2024. It's most commonly diagnosed among Caucasian adolescent, presumably cis females. One study reported that in 4,835 patients with POTS, of those affected, 93% were white, 94% female, and of childbearing age, with approximately half developing symptoms in adolescence, with a mode of 14 years of age.[1] It's considered to be a dysfunction of the autonomic nervous system, and the onset of symptoms often follows a traumatic event, surgery, or viral illness. Its heterogeneous nature makes it difficult to diagnose. Similar to the story of the blind men and the elephant, every doctor may be looking at an individual symptom relating to one system of the body and not seeing the full picture. And currently the most accurate autonomic testing for the condition is called the tilt table test.

This figure from Cheshire and Goldstein (2019) shows the tilt table test and a sample heart rate and blood pressure reading that might indicate a POTS diagnosis. A patient is lying on a table shown both in a supine or 0 degree angle and tilt it upright at a 70 to 90 degree angle. The blood pressure remains relatively steady while the heart rate

[1] Editor's note: It is important to remember that demographics for diagnosis are often impacted by social and economic inequities. Many people with POTS are members of minoritized populations, and may also be men or nonbinary individuals-- but diagnosis is often a lengthy, expensive process not accessible to everyone.

increases drastically upon a head-up tilt of 70 degrees. When the patient returns to a supine position, the heart rate gradually recovers.

There are a long list of POTS-related symptoms, and they include dizziness or lightheadedness, brain fog, weakness or fatigue, inability to stand for long periods of time, and those alone, you can imagine, can be difficult for singers in choirs or performing on stage in recitals or productions. Also includes heart palpitations, syncope or near-syncope, exercise intolerance, shortness of breath, chest pain, problems with digestion, bloating, insomnia, hoarseness, tremor, headaches, or problem with eyesight, hands and feet looking purple, shaking and excessive sweating. Some of these symptoms may be more likely a result of comorbidities and not POTS itself. Distinct to POTS is that the symptoms are relieved upon lying down. Patients with POTS present with different combinations of symptoms, which is another reason why the condition is difficult to diagnose.

So how can POTS affect singers specifically? Participants in my 2024 study shared that in regards to vocal function, the most affected was breath regulation. They also shared experiences of loss of range, stability, intensity, or lack of control. In performance, brain fog can be a real issue, and there can be an inability to focus. There can be an increase in stage fright, which could further trigger a flare of symptoms. Staging may require long periods of standing or sudden changes in posture. There's a fear of disclosure and the sort of stigma that that might cause, but there's also a fear of being left behind. As a dysfunction of the autonomic nervous system, POTS symptoms would have a direct effect on the ability to vocalize, especially in a high-pressure situation. The vagus nerve or wandering nerve innervates not only the larynx and the pharynx but also most of the abdominal and thoracic viscera. It makes up about 75 percent of the parasympathetic nervous system, which is responsible for the "rest and digest" response. POTS is a reduction of parasympathetic activity and an increase of sympathetic activity or a fight-or-flight response. Autonomic dysfunction can have a direct effect on laryngeal function and therefore voice production. Some researchers suggest that ANS [Autonomic Nervous System] dysfunction can be associated with vocal cord dysfunction, which is now more accurately referred to as "paradoxical vocal fold motion disorder," or "muscle tension dysphonia." And another study suggests that ANS dysfunction might even cause pitch modulation.

When it comes to treating POTS, it's important to remember that it's a syndrome and

not a disease, because many systems of the body are affected and interdisciplinary approach is ideal. There are no FDA-approved pharmaceutical treatments, so several are used off-label to treat symptoms. Treatment usually starts with increased hydration, electrolytes, and salt intake. And many studies have looked at stamina-building cardio-rehabilitation, or exercise programs specifically created to reach 75 to 80% maximum heart rate, gradually introducing more upright positions over time.

Dr. Thomas Chelimsky, a neurologist who specializes in POTS, suggests that POTS may be a cardiovascular manifestation of the brain's alarm, explaining why it typically follows a major illness or runs with other disorders that also reflect persistent sympathetic activation. He's found that the most effective management requires two approaches: 1) curative, working to reduce sympathetic activation, and enhance vagal modulation, and 2) supportive, restoring cardiovascular volume distribution (Chelimsky 2023).

And POTS is almost never alone. There's a long list of comorbidities, the newest among them being long COVID, which could account for the rise in cases in recent years. We will be looking more closely at a cluster of three common comorbidities, Ehlers Danlos Syndrome (EDS), hypermobile Ehlers Danlos syndrome (hEDS), and hypermobility spectrum disorder (HSD), as these would have a direct effect on the structures of the larynx and vocal function. There are different estimates across the literature about the prevalence of hypermobility in EDS among patients with POTS ranging from 30 to 50 percent. Some researchers suspect that this range is due to variations in diagnostic criteria or just terminology.

Hypermobility is a condition where joints move beyond the normal range expected for someone of that same age, sex, and ethnicity. This could be caused by anatomy. Maybe the socket is more shallow, allowing for a larger range of motion. Age: little ones are naturally bendy and stretchy, and though most people grow out of this flexibility up to 20% of people retain it, perhaps more. During pregnancy and possibly postpartum, there's an increase in the hormone relaxin, but this is usually temporary. Training can increase joint flexibility, such as dance, gymnastics, yoga, etc. Many hypermobile people are asymptomatic and function well with it, thus for them it's not a disorder. The difficulty arises when hypermobile joints that aren't held securely in place by connective tissues such as ligaments and tendons are unusually loose, leading to subluxations, which means the joint is partially out of place, actual dislocations, sprains, and other

injuries. Hypermobility can cause general fatigue due to nearby muscles overworking to

stabilize those joints and can cause pain and difficulty with daily life.

Joint hypermobility and instability can also be a part of a known syndrome, such as types of Ehlers-Danlos Syndrome(s) and others. EDS are a group of 15 heritable genetic connective tissue disorders. The conditions are caused by genetic changes that affect connective tissue, specifically the collagen in these tissues. Each type of EDS has its own set of features, but hypermobility, skin hyperextensibility (stretchy skin) and tissue fragility are common to all types. The most common subtype is hypermobile EDS.

Now, a medical disorder is a condition that disrupts normal function. Therefore, Hypermobility Spectrum Disorders, or HSD, occur when there is symptomatic hypermobility along with the disruption of normal function. Some folks have only HSD, and others have accompanying medical issues. A spectrum disorder is a condition that varies by type and severity of symptom. Thus, hypermobility spectrum disorder may have hypermobile symptoms that range from mild to severe, and they may have one or more accompanying symptoms such as fatigue, dizziness, constipation, headaches, etc., also varying in severity. These types of hypermobility may affect only some joints, and the severity is on a spectrum. Each affected person's hypermobility is unique. And this is a diagnosis of exclusion, so all types of EDS must first be excluded. It's important to add that it's possible that up to 40% or even more of HSD or hEDS patients meet the diagnostic criteria for POTS.

When we consider where connective tissues are present in voice anatomy structures, we can begin to understand what can be affected and what the ramifications may be in singing. This includes small structures as well as larger ones that work together to produce and sustain the voice. Starting with the laryngeal structures, consider the tiny joints involved in phonation, the cricothyroid joint that governs pitch and access to the upper register, the cricoarytenoid joints that are constantly adjusting vocal fold adduction and abduction, closing and opening. If these joints are less stable, this may affect vocal function. The whole suspensory system of the larynx involves connective tissue, the cricoid cartilage articulates with the top of the trachea, the vocal ligament, intermediate and deep layer of the lamina propria contain elastic and collagenous fibers. This gives the voice tensile strength when singing in the upper range.

The larger structures that can be affected are in the respiratory system. Possible hypermobility of the diaphragm, rib joint instability, general joint and musculoskeletal pain, which can affect breath management. And some have hypermobility of the tongue, which would affect articulation. As we can see, the figures vary widely. However, in a

recent Demmler study of hEDS-HSD (2019), they found 10 times the prevalence of other figures and 70% were female plus.

We should keep in mind that hypermobility appears to be more common in the performing arts, at least partially because being stretchy can in certain ways enhance some performance skills. Dancers with great flexibility, that typical ballet hyper-extended knee is almost a requirement. String players and pianists may have an extended reach or finger span, etc. Unfortunately, in Jeffery's (2024) survey-based study of trained singers, nearly 75% reported voice difficulties.

So what might lead a teacher to suspect hypermobility in a student? How do they stand? Do they have hypermobile knees or other joints? Can they palm the floor when bending forward? Singers may have an unusual upper range extension, but not have the timbre of a coloratura or a natural ability to sustain a very high tessitura. In contrast, some hypermobile singers report limited range. We can speculate that muscular compensations to provide a feeling of stability could inhibit range. Some are unusually flexible and could riff all day or have agility with coloratura. Other reported symptoms include the following, and please understand that these are possibilities, and not every affected singer has all of them: vocal fatigue, loss of stamina, or hypofunction, and there's a related risk of pushing through despite fatigue. Diminished vocal intensity, power, volume, or power but little control, difficulty with breath management or support, dysphonia, hoarseness or breathiness that is not associated with a short-term illness. Hypermobile singers report vocal instability, unreliability, unpredictability, sudden loss of function, difficulty with register transitions, trouble producing and sustaining desired pitch in tune, voice related pain and other musculoskeletal issues such as temporomandibular joint disorder or TMJD, neck and/or back tension, compensatory tension and singing or muscle tension dysphonia, excess false fold contraction, choking, spasming, coughing.

There may be inconsistent progress, which is confusing to both the teacher and the student. An unusually wide range may cause a singer to be misidentified in their choral part, or theatrical type, or Fach—problematic if they are vocally stressed by singing in an inappropriate section, keys, or repertoire. Vocal strengths may also have a shadow side. If not handled thoughtfully and conservatively, this could lead to unhealthy muscular compensations, injury, and eventual worsening of symptoms.

In 2024, I completed a mixed media exploratory survey and case study to better understand how POTS and its comorbidities affect performers. I'll share my findings in this study in part two, but here are a list of themes that arose from the survey data.

"Many doctors and appointments,"

"Doctors didn't know what it was,"

"Finally,"

"Dismissed,"

"Disrupted career or education,"

"Complication,"

"Misdiagnosed,"

"House- or bed-ridden,"

"Formerly active person,"

"Dizzier normal,"

"Just anxious,"

"Just depressed,"

"Just stressed,"

"Just hormonal,"

"Missing out,"

"Can't do simple tasks,"

"Major impact,"

“Exhausted,”

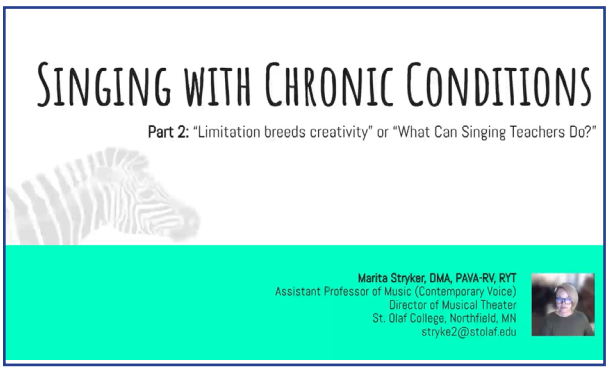
“New normal.”

But also, in the Jeffery, et al. (2024) study of singers with HSD/hEDS, they shared that singing supported interviewees’ physical and emotional capacity and helped relieve some of their HSD/hEDS symptoms. For some, the physical rigor needed for singing helped offset some of the postural and muscular issues that arise from hypermobility. Despite the majority of the subjects experiencing voice difficulties, the Jeffery study on hypermobile singers reports that 88% of its subjects were actively singing several times a week.

My research partner, Joanne Bozeman, and I have worked with and interviewed singers with these conditions. They’ve shown remarkable resilience, determination, and adaptability in understanding their bodies and voices. And they’ve continued to sing and perform, albeit making decisions that work for them. They say that singing is part of their core identity and provides community. Singing gives pleasure. Singing stimulates the vagus nerve and vocalizing can even calm down symptoms. These are only a few reasons for singers to continue singing as healthily as possible. And for teachers, it’s our privilege to support them in this pursuit.

In Part 2 of this presentation, I include a handful of case studies, as well as specific strategies and considerations for teachers that are working with singers who have POTS, HSD, and hEDS. I am so grateful for the opportunity to share our research. Thank you for taking the time to listen and consider.

Part 2: Limitation Breeds Creativity, or What Can Singing Teachers Do?



Click the image above to view the video or click here:
https://www.youtube.com/watch?v=0_eLOuKK0tg

The transcript for the video is below.

[Video Transcript]

My name is Marita Stryker. I am an Assistant Professor of Music at St. Olaf College in Northfield, Minnesota, where I teach contemporary voice and I'm the director of the musical theatre concentration. I'm a white woman with blonde hair to my chin and an undercut and I'm wearing black glasses and a green sweater.

I hope you had a chance to watch and listen to Part 1 of this talk. This slide shares the title of Part 2, "Singing with Chronic Conditions, Part 2: Limitation Breeds Creativity, or What Can Singing Teachers Do?" This talk has two parts, because there's a lot of information to cover, but if we have a basic understanding of these conditions, the recommendations and accommodations we discussed will make more sense. If you would like more information on the conditions, please view Part 1 first.

In Part 1, I give an overview of POTS, HSD and hEDS, how they're diagnosed, and some specifics around symptoms and how they might affect singers. Part two will share a handful of case studies, recommendations, and considerations for working with singers who are navigating these conditions.

If you close your eyes and imagine a singer, you likely picture someone standing at the curve of a grand piano or behind a microphone. If you imagine a choir, they're

likely standing, tall and unified, carefully blending long phrases for at least an hour. If you picture a musical theatre performer, you may see a high energy ensemble dance number or a flying beltress on a lift with arms outstretched. These are expectations built on centuries of tradition and training.

Efforts are being made to recognize the lack of inclusion in the arts as organizations promise to welcome artists of all races, genders, bodies, and abilities. On the education side of the industry, there are training programs for teachers focused on trauma-informed pedagogy, working with neurodivergence, mental health first aid, diversity, equity, and inclusion, and many other tools created to better support the variety of students pursuing the arts. In 2015, Ali Stroker became the first actor in a wheelchair to appear on Broadway. She later went on to win a Tony Award for her performance as Ado Annie in the 2019 revival of Oklahoma! The industry is slowly becoming more inclusive and diverse. But what if the thing that makes you differently-abled is not outwardly visible? What if you have days in which you are completely functional and high-energy, and other days when you are unable to stand long enough to shower? This is often the reality for those with a diagnosis of one or more invisible chronic illnesses.

The following slides will share the stories of five singers of varying ages, vocal styles, and level of pursuit, as well as their diagnostic journey and advice. Each singer has been given a pseudonym, and any revealing names and titles have been removed. This is the start of a larger project, collecting stories of performers navigating chronic conditions. But as you will see, their stories are powerful and important to any budding performer or teacher hoping to find their way through this journey.

This is Melanie [*slide with no photo, only text quoting and summarizing some of her words*]. She says,

> I think for me, singing is really more about the community and the friendships that have come along with it. I know sitting down and singing is fun, and singing in the car is fun. But I really enjoy the people.

She started singing in choir as a child and performed in musicals in high school. In college, she was a double major in music and speech language pathology. And while in school, she participated in singing lessons and multiple choirs. She now works as a voice-specialized speech language pathologist and is currently singing in a non-auditioned choir—although since her symptoms started, she finds it difficult to convince herself to go to choir after work sometimes.

Her choir is very supportive and diverse, and there are lots of opportunities for solos, but she says,

> I don't know when I'm going to flare, which makes my heart palpitate. I feel air-hungry, dizzy, and super tired. Having to bring a stool up with me for a solo would be a pain and draw more attention to me than I already have. Things like that have been barriers to fully participating in the group, which has been kind of a bummer. But the last thing I need is to go up there, also nervous, not feeling great, and then have a solo in front of the whole choir and not feel like I can do it the best that I could if I felt fine.

Melanie had a sudden onset of POTS symptoms. She was working with a client when she noticed her heart was beating really fast. She thought it might have been because she had just had coffee, or due to the empathy for her client's anxiety, but it didn't go away. Luckily, she had gotten a new Apple Watch with the ECG figure. She sent the reading to family members that also happened to be nurses. And they suggested it might just be the caffeine. But she reached out to a primary care physician who used to work in cardiology. Symptoms were increasing, but her doctor said all tests looked normal. Melanie thought her symptoms felt similar to what one of her patients described as POTS. So she began looking into it, and upon returning to her doctor, she had to beg for a referral to a cardiologist. On the day of her tilt table test, she happened to miss the shuttle to the hospital and ended up running. This caused her to arrive at her appointment in a state of flare. Her diagnosis was very apparent, and she was put on medication. She's still trying to find the right balance of treatment, but she says her symptoms have improved about 65%. She was able to adjust her work schedule, working from home much of the time, which allows her to take breaks and lie down, and telehealth means she doesn't have to get up and down to bring her patients back to her office. Her colleagues have been very supportive, and she found interactions with online dysautonomia communities to be very helpful.

She's been experimenting with breathing techniques similar to what she would use with her paradoxical vocal fold disorder patients and semi-occluded vocal tract exercises or straw phonation with extended exhalation, though she's very careful not to go close to a maximum exhalation.

[*New slide with quote and summary*]

Theresa says,

> For me, singing is the only thing that makes sense. I've had a lot of things happen to me, frankly. I've been through a lot, and singing was the one thing that made me feel good about myself and made me feel confident.

Theresa began singing in choir at a young age. She then started writing songs and singing with an indie band, and she's now studying commercial music and musical theatre in college. She's noticed that since her POTS symptoms started, she has trouble sustaining notes. She sometimes experiences muscle contractions in her chest, and she's had to take breaks during rehearsals, which she says makes her feel like she's being left behind. Her POTS is a result of long COVID, although she also points out that she has had similar symptoms after having mono at a younger age. She was diagnosed by a trusted general practitioner who had guided her through her mono experience. She was told that within the same week, there were four other girls her age who had been diagnosed with POTS after COVID. But along the way, she has had doctors also dismiss her symptoms and tell her to just drink Gatorade and eat some pretzels, to which she exclaims, "That's not all I need!" The specialist in her area has a two-year waiting list. Her appointment is still a year and a half away. In the meantime, she has found success by taking extra care in preparation before performance. She stands for at least 15 minutes prior to a performance in order to let her body regulate. She focuses her practice on breath support and stamina, and she says, "It sounds awful, but you have to get used to it. You just have to practice not being okay and doing the thing."

[*New slide with quote and summary*]

This is Rebecca. She shares that sometimes singing can feel like a massive release and be the best thing in the world and sometimes you get in your head and it's the most stressful, horrible thing, especially if you're sick and things aren't functioning as they should be. Rebecca was inspired to perform because her mother was a regular in the local community theatre. She had basic singing training as a child and then went on to major in musical theatre in college. She's had a very successful career doing multiple high-budget production contracts, the likes of Broadway, West End and national tours, although after the onset of her POTS symptoms, she was dismissed from a contract due to illness. She started teaching voice during the pandemic and continues to teach in addition to performing. After the pandemic, she thinks the onset of POTS was triggered by the drastic change from quarantine to suddenly returning to eight shows per week. She was starring in a national tour when her symptoms started. She experienced dizziness, nausea, high heart rates and intense bruising on her legs. And she jokes that she was doing a hospital tour of the country, as she tried to figure out what was going

on and the doctors didn't have answers.

She was having a blood test for the 20th time that month when she suddenly fainted, so the hospital put her on a monitor. A nurse was looking at her heart rate and said could you stand up for me and did a poor man's tilt table test, standing for 10 minutes then lying back down. The nurse said, "Have you heard of POTS? It might be worth getting that checked out." Rebecca says, "If it wasn't for that nurse, I really don't think I would know now." She shares that disclosure can be complicated professionally. When you look like someone who is perfectly healthy, you don't want to make a bad impression by not rising to meet expectations, but you aren't sure what the reaction will be to disclosure of a disability. She feels there's a different perception of visible disabilities in the arts and invisible disabilities. It's wonderful that a lot of shows are being more inclusive of visible disabilities. But to her, it feels like she would never get in the room for those because she's not disabled enough for this industry, but too disabled to be classified as able-bodied and well. She doesn't know if she can claim this as a part of her identity and (have) it not hinder jobs.

The invisible nature of the illness makes people less accommodating without realizing it. As the regulations on mask-wearing went away after the pandemic, she points out that if someone comes in sick and gives a fellow cast member a cold, they'll recover easily, but it could knock her out for weeks. But she did share that just knowing what the beast is helps you conquer it. Since her diagnosis, she has had the opportunity to work on a couple brand new shows where she's able to collaborate with choreographers and directors about modifications and sustainable staging. She feels it's been a more supportive environment, with space to lie down backstage if she needs it, permission to leave a water bottle on the props table backstage, and salt tablets in her dresser's apron pocket just in case. She takes these accommodations with her now when she can, but points out that with the big machine shows, it would be trickier and she doesn't think that they would be willing to accommodate.

[*New slide with quote and summary*]

Charli says,"I love singing. It's very freeing. You have to be completely present to sing, which I think is nice. Almost meditative." Charli has been singing since seventh grade. They were active in musical theatre and choir in high school and went on to be a musical theatre major in college, and they're now a professional musical theatre performer. After their POTS onset, it was difficult getting enough breath and having access to the upper register. They sometimes feel pressure in their head on sustained

notes, turning to tunnel vision and near-fainting. With the onset during college, they found that professors seemed to lose interest, and they were no longer getting cast in shows. After this sudden onset, they went to the on-campus health facility and they were given a pregnancy test and told, “you’re just dehydrated.” Symptoms progressed quickly and Charli was housebound by the end of their freshman year. After a series of specialists and misdiagnosis, a nurse suggested a second opinion that led to their POTS diagnosis.

Charli shared an incredible story of their dad insisting they go to the grocery store to get out of the house. This was when walking just a few steps was fatiguing. About halfway through the trip, Charli said they were going to faint, and they decided to use one of the scooters at the front of the store. The next time they went to the store, they grabbed the scooter from the beginning and at the end of the trip realized, “Oh, I just successfully went to the grocery store,” which was a huge accomplishment at the time. And from then on, they started seeing that a mobility aid could help them get their life back.

The wheelchair is a sensitive subject for Charli. When someone is in a car accident and needs a wheelchair it’s not a choice, but with chronic illness Charli feels people see it as a choice, that you’re choosing not to get better. But they say,

> “This is the only fighting chance I have to do the one thing that sets my soul on fire. My mobility aid is my freedom, and my disability is the biggest source of creativity that has ever come to me in my entire life.”

Charli also has a service dog to help alert them of the possibility of fainting. Their agent has been a great advocate for accommodations on performance contracts, but sometimes they’re intimidated to use them. They also notice that accommodations can be a little bit like boxes being ticked, but not quite thought through. They tell the story of one theater choosing to take 5-minute breaks every 55 minutes of rehearsal instead of 10-minute breaks every 80 minutes. This may be enough for most cast members, but Charli found it challenging to get to the bathroom and back in time and feel as though they were ready to start again.

Charli’s career is taking off, including roles that have given them the opportunity to share about the specifics of their condition. They say singers with POTS need to know that their teachers believe that it’s possible. Because if a teacher doesn’t believe it’s possible, how is the student going to believe?

[*New slide with quote and summary*]

Cynthia is a 53-year-old professional singer and voice teacher. She's a lyric mezzo with an extended and expanded upper and lower range. Singing lyric mezzo repertoire keeps her in an appropriately conservative range. She has experienced muscle tension dysphonia, which she says may be due to compensations in order to find stability in the voice. And she works with a singing voice-specialized SLP in order to keep an eye on this. She avoids over-stretching her voice to the top of her range and says that the bottom-up approach yields better stability than the top-down approach.

Perimenopausal voice instability also began in her late 40s. "HRT has been a godsend," she says. She noticed an increase in symptoms and as a low-risk person, she started menopausal hormone therapy, and it's been very helpful. She uses amplification in studio class to avoid vocal fatigue, because hypermobile teachers need accommodations too. Always a bendy person, but her HSD was diagnosed at 48. This is a relatively late formal diagnosis. She demonstrated high flexibility on the Beighton scale, but doesn't have EDS. She is experiencing early-onset osteoarthritis, which is an additional factor in how she needs to manage exercise and avoid pain. Though an avid exerciser, she's had to modify her choices to maintain stability without injury: swimming versus running, modified yoga, light weightlifting. She says that it's critical for yoga and lifting to have a well-informed instructor or training. Unstable joints should not be stretched the full range and weight lifting should be done with excellent technique.

Being a certified body mapping instructor has also helped her develop body awareness. Knowing where body parts are and how they work helps increase proprioception in all people, but is especially helpful for hypermobile people who often have poor proprioception. Cynthia urges teachers of hypermobile singers to avoid falling back on "how does that feel?" all of the time and help the student find descriptions to better understand and express their singing somatosense. "In a way, you establish a unique vocabulary that you and the student can use in lessons." Cynthia must have daily body mindfulness frequently, and checks in with herself: spine, core stability, and interplay of pelvic floor and diaphragm for stable breathing. And I'll close with a quote from this generous singer and teacher.

> "Hypermobility is unique for each person. We need to know our own bodies and voices to understand what they can do and should not do. We must advocate for ourselves and educate our coaches, teachers and directors and find your community. Don't stay in the shadows. There's no shame in how we're made."

So, what are best practices for working with affected singers in clinical settings, choirs on stage and in our voice studios? Though further research that applies to these settings is needed, those of us who are currently working with affected singers need advice now. We've gleaned our recommendations from these sources: interviews and experiences from teachers working with diagnosed singers, input from teachers and singers who have these conditions, and current research. We also have listened to discussions on podcasts, social media, and online forums which include affected singers, their teachers, and SLPs. Each student who has one or more of these conditions will need a unique approach.

As we've heard, avoid end-of-range motion of joints and laryngeal articulation. So it's best not to vocalize to the very top or very bottom. Avoid high subglottic pressure in upper range that is, high intensity singing for extended periods. And as Cynthia suggested, it may offer more stability to develop a bottom-up approach of the lower passaggio for treble singers versus a top-down approach, some thyroarytenoid or chest-voice influence to stabilize voicing in that region, and also using semi-occluded vocal tract exercises or "ng," etc.

For hypermobile singers, watch and listen for unhelpful compensations, which may lead to muscle tension dysphonia-- that is, very simply, excess muscle engagement leading to vocal difficulties. Offer ways to sit--a chair, a large balance ball—during lessons, a stool. Hypermobile singers should be aware of possible reduced proprioception knowing where the body parts are in space. Kinesthesia and somatosense help your students develop a wider vocabulary to describe their singing.

Flexibility with memorization: for POTS, brain fog can make learning slower and memorization more difficult.

Singers have suggested the use of Stemple Vocal Function Exercises or SOVTEs [Semi-Occluded Vocal Tract Exercises], such as straw in water, but not very deep. Let students guide this because some SOVTEs may trigger symptoms for POTS. And for singers with POTS, extended exhalation can be helpful for the condition and head off a threatening flare. This could be something like box breathing, like inhaling for four counts, exhaling for eight counts. Your singer should guide the form and speed and avoid patterns that trigger symptoms.

When we look at considerations for singing, when it comes to alignment, standing can be difficult for singers with POTS or dysautonomia. This can also cause joint pain

or musculoskeletal pain. In respiration, possible hypermobility of the diaphragms, rib subluxation, joint pain or musculoskeletal pain.

Phonation: subluxation of arytenoid joints, increased stretchiness of the vocal folds. In resonation, lingual hypermobility, discoordination and reduced proprioception.

And in articulation, lingual hypermobility, musculoskeletal pain.

And in moving around stage, there may be reduced proprioception and increased risk of injury.

So here are some complementary practices. Mindfulness practices such as meditation, breath work, Tai Chi, etc., are going to increase that parasympathetic nervous system activity. Targeting physical therapy with qualified person, stabilizing exercises such as Pilates, swimming, modified yoga (stability is the goal, not flexibility), walking, etc., body work such as Alexander Technique or Body Mapping. Light resistance bands can be used to increase proprioception and large exercise balls can be used for alignment and proprioception. Light corset or Spanx-type garments can be useful for proprioception, but also for singers with POTS, compression garments and stockings can also be useful. Again, for singers with POTS, extended exhalation can be helpful with these conditions as long as you don’t go to maximum exhalation.

Here are some suggestions for accommodations that will support affected singers. To receive official academic accommodations in the schools or your university setting, students with medical diagnosis will need to arrange them with the school’s academic accessibility office. Students with POTS need to have access to water, electrolyte drinks, and salty snacks in rehearsals and class. Always urge singers to sit during practice time if needed. In lessons, choral rehearsals and stage rehearsals, have access to a chair, a stool, an extra chair to prop legs, or an exercise ball. For singers with POTS and dysautonomia, make accommodations for brain fog and the ability to learn and memorize music. Teachers and directors should offer flexibility with memorization requirements for juries and performance. For hour-long lessons, it may be best to have two 30-minute lessons per week to avoid fatigue. If 30-minute lessons, offer a standing alternate time in the case of the student having an off-day or flare day. Find an optimal lesson time for the student. For singers with POTS or dysautonomia, later in the day will likely be better than morning, so that circulation has time to stabilize.

Shorter, spaced practice sessions are recommended versus longer practice times for both conditions. Encourage mental practice or rehearsal. We know it's an effective way to learn and can save physical energy. Practice spaces are best with natural light and good ventilation for singers with POTS who may be affected by harsh lighting or strong odors. Find repertoire that's not over-demanding, so within a conservative range, with emphasis on expression and communication versus large range or high-intensity vocalism.

For musical theatre and opera productions, double casting when possible, or cover when possible for rest and stress reduction. 5-minute breaks are very short, so maybe talking to the Equity members about having 10-minute breaks. Creative staging, including sitting or other forms of support if needed, a set piece, a wheelchair, a cane, a stool, a chair, or having flexibility in the staging where sometimes they might need different staging than others. Teach singers how to mark in rehearsals, singing at a softer volume or down the octave, and use amplification when needed.

There are a few other considerations that are not directly related to pedagogy. It may take longer for singers with these conditions to recover from upper respiratory infections, and reflux is more common. Vocal injury may be more common and may take longer to heal. So it's helpful to develop a relationship with a medical voice team that has experience with these conditions. Singers would benefit from a community, not just with other people with POTS or EDS, but with singers navigating POTS and EDS.

And a supportive interdisciplinary medical team is ideal. We also want to point out that we as voice teachers can help our students see possibilities that they may not have known existed. In my study, there appeared to be a trend towards contemporary styles, which I'm not sure is indicative of the POTS population, my particular pool of recruitment, or a general preference, but we're lucky to live in an ever-changing music industry, not only embracing more diversity on stage, but also providing opportunity to create and share your voice from anywhere—YouTube, TikTok, recordings.

When I first had a question about how to better support my students with POTS, HSD, and HEDS in an academic setting, I was surprised when a couple of voice practitioners said that they might need to consider other paths or forget about singing professionally. This isn't an acceptable idea. And as an advocate for our students, we can creatively support our students in their pursuit of singing.

Singing is an expressive and emotional outlet for many people. Both creative and collaborative, it's a way of connecting with the world. It is, overall, good for our mental and physical health. Every voice is unique, and so is every singer's path to finding their voice. Voice practitioners have the great privilege of witnessing and encouraging these performers as they discover their path. Contemporary or amplification may be better for some singers. But why must we always stand to sing? Instrumental wind players typically sit and may use sheet music for concertos. We cannot always see the challenges that the person in front of us is facing. They may not be able to put it into words. Hold space with flexibility and creativity and be kind and patient. Everyone deserves to find their voice.

Thank you again for your time and consideration. I hope that we can move forward with creativity and flexibility, being an advocate for our students and all of the incredible possibilities in the future.

Glossary

autonomic nervous system: controls the parts of the nervous system that are involuntary, such as digestion, heart rate, and breathing.

dysautonomia: also called autonomic dysfunction. The dysregulation of the autonomic nervous system, potentially affecting the heart, bladder, sweat glands, pupils, and blood vessels. Occurs in multiple conditions including POTS, and Ehlers-Danlos syndrome (see also Ko in this book).

Ehlers-Danlos Syndrome: a set of connective tissue disorders that can impact multiple systems throughout the body.

hypermobility/hypermobile: joint hypermobility that can be benign or can cause dislocations and subluxations.

Hypermobility Spectrum Disorders: refers to connective tissue disorders that do not meet all the criteria for Ehlers-Danlos Syndrome but do involve similar symptoms.

idiopathic subglottic stenosis: a narrowing of the subglottis (below the vocal folds) that can block the airway.

invisible disability: a disability whose impact is not easily apparent to someone looking. Also referred to as non-visible, hidden, or non-apparent. Some disabled thinkers reject the term “invisible” as dependent on the medical model of disability, as centered on the experience of the observer rather than the person with the disability, and as exclusive of the variability of illnesses/disabilities that are sometimes visible and sometimes not (Détournement 2025). (See also: Noori.)

medical gaslighting: an experience in the context of healthcare when providers dismiss a patient’s concerns or blame the patient themselves. (See also: Ko, Wright.)

parasympathetic nervous system: part of the autonomic nervous system, it controls automatic functions such as digestion, heart rate, and blood pressure.

POTS: Postural Orthostatic Tachycardia Syndrome, in which the heart rate increases inappropriately when a person is upright.

SOVTEs: Semi-Occluded Vocal Tract Exercises, such as lip trills or phonation through a straw.

subluxation: a partial joint dislocation.

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Further Resources

Chronically Singing: Amplifying Voices of Singers with POTS, hEDS, & HSD. https://www.chronicallysinging.com (Marita Stryker)

- Including: resources on POTS, hEDS, and HSD: https://www.chronicallysinging.com/resources

Dysautonomia Information Network: https://www.dinet.org/

Ehlers-Danlos Society: https://www.ehlers-danlos.com/

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Author Biography

Marita Stryker is an Assistant Professor of Music (Contemporary Voice) and Director of Musical Theatre at St. Olaf College, PAVA-recognized Vocologist, and movement specialist. She has held teaching positions at Shenandoah Conservatory, Oklahoma City University, and Senzoku Gakuen College of Music (Tokyo). Favorite performance credits include the national tour of John Doyle's *Sweeney Todd* (swing for Johanna/ Beggar Woman/Pirelli - cello and flute), Tokyo's dual-language production of *The Last Five Years* (Cathy), *Chess* (Florence), *Crazy for You* (Polly), and many other wonderful roles. Outside of her theatrical experience, she spent many years performing on Celebrity and Holland America Cruise Lines. Marita holds degrees from Oklahoma City University (B.M. and M.M.) and a D.M.A. in Voice Pedagogy (Voice Science) from Shenandoah Conservatory. Her teaching brings together a passion for contemporary singing styles, accessible voice science, and the mind-body connection that keeps the artist balanced, aware, and receptive.

13. Asthma and the Voice: One Singer's Story

Bryn Jimenez

Audio of this chapter is available here: https://www.youtube.com/watch?v=yc9eri6zHWE

Estimated to affect 262 million people worldwide ("Asthma," World Health Organization 2024), asthma is hardly an uncommon condition. Unfortunately, as with many less-visible disabilities, its signs and symptoms are not always recognized. Despite living with symptoms and exhibiting signs of uncontrolled asthma beginning in my teens, it took me until my mid-30s to recognize them for what they were, and several more years to identify all of my triggers and get my condition adequately managed. It was also not until my mid-30s, two decades into pursuit of an operatic career, that I realized the impact my asthma had had on my instrument and vocal training. Many signs and symptoms of my breathing difficulties were most obvious during activities that placed extra demands on my respiratory system, like singing. However, while my voice teachers, my coaches, and I were highly aware of the effects my unmanaged asthma had on my voice, none of us recognized their underlying cause. Only in hindsight and with new understanding and knowledge was I able to piece together how the challenges I faced as a singer were rooted in chronic lung disease.

I was diagnosed with asthma as a toddler; according to my parents I would often "lie on the couch and wheeze." I was treated with nebulized Ventolin for a time but stopped when my symptoms seemed to fade. As a child, I understood that I had "grown out of it." As an adult, I learned that, like all chronic illnesses, asthma can go into remission, but that "growing out of asthma" is a myth (Cleveland Clinic, 2023).

At the same time, I thought I had outgrown my asthma, I was most certainly growing into my voice and my passion for singing. In kindergarten, I was asked to perform a solo in our Christmas concert. I joined a local children's choir a few years later and was instantly identified as a soloist. When I reached middle school, I began taking voice lessons and played the Duchess of Plaza Toro in a children's production of *The Gondoliers* that performed at the International Gilbert and Sullivan Festival in Buxton, England. My high school audition for our county's arts magnet program resulted in my immediate placement in an advanced choir usually reserved for more senior students.

Once in high school, singing became unexpectedly more difficult. I began losing my voice intermittently, developed weak spots in my range, struggled with long phrases, and generally performed inconsistently. I once finished my piece in a recital to find that my spine had worked its way into a full twist. My voice teacher at the time, unsure why I was suddenly encountering vocal production issues, recommended I see an ENT. While I don't recall the details of that exam, the upshot was that they found nothing concerning enough to indicate clinical intervention was necessary.

It wasn't until my late 30s that I discovered how these struggles were related to asthma. Sex hormones may play a role in the rates of asthma among adults (AAFA, 2024). Some disabilities are dynamic in nature, their signs and symptoms sometimes more and other times less noticeable and impactful (Gangl, 2023). Asymmetrical torso rotation, and patterns like apical (primarily relying on upper chest muscles) and paradoxical breathing (in which the chest moves in with inhalation and out with exhalation) , are among the signs that the use of the diaphragm is inefficient (McGuire, 2019), and such compensations in coordination of the respiratory muscles are not uncommon among asthmatics (Bradley & Clifton-Smith, 2008).

After high school, I applied for undergraduate voice programs, hoping that someone somewhere would teach me the technique I needed to be the singer I knew I could be. My college auditions were inconsistent at best, but I did find a program with a voice teacher who was a good fit. She kept me in comfortable repertoire and helped me find some success in auditions and competitions. Unfortunately, I still struggled with consistency, especially during auditions and performances, and I lost my voice like clockwork every fall and spring.

One of my coaches at the time suggested I look into allergy shots, as she thought some of my symptoms could be rooted in seasonal allergic reactions. Following her advice, I saw an allergist and began allergy shots in my junior year of college. This solved the problem of losing my voice seasonally, but did nothing to alleviate other vocal inconsistencies, like my struggle to sing in auditions and performances as well as I typically did in the practice room or voice studio. One of my allergists told me he would prescribe an inhaler if I needed one, but I never took him up on the offer. I had grown out of my asthma, after all—or so I believed, and so I'd been assured. I was an active young adult, no longer sidelined by wheezing and never noticeably short of breath.

I later learned that allergies and asthma are often intertwined, with allergens acting as asthma triggers (AAFA 2024). Through dermatological testing, I also determined that I

am allergic to chemicals commonly found in household and personal care products and in cosmetics, which I used in greater amounts for auditions and performances. When I did an elimination diet for what I thought were unrelated health concerns, my dietician and I discovered that I am among a small percentage of asthmatics who have allergic reactions to sulfites (AAFA, 2024), salts that naturally occur in small amounts in some foods and are used in larger amounts (but not always labeled) in the processing and preservation of food, household, and personal care items. Additionally, while wheezing and shortness of breath are common signs/symptoms of an asthma attack, they are not the only ones. Coughing, chest tightness or pain, increase in production of mucus, nasal congestion, itching of the neck and/or chin, fatigue, and raised shoulders and/or slouching, some of which I experienced regularly, are common asthma signs and symptoms as well (AAFA, 2024).

Upon completing my undergraduate degree, I put off auditions for graduate school and went back home to regroup. I started studying with a local voice teacher who pointed out intermittent irregularities in my speaking voice; she had some trouble describing it, but felt there was often a lack of clarity when I spoke. Over a decade later, this observation proved pivotal in discovering that my asthma was undermanaged and started me on the road to getting it properly controlled.

As I had a history of exercise-induced asthma, I started making a habit of taking my short-acting inhaler in advance of workouts when I was in my early 30s. One day, I took the inhaler before leaving the house for a workout, then received a phone call. When I answered, I noticed that my speaking voice was full, resonant, and powerful in a way it had never been before. I realized the qualitative difference my voice teacher had observed in my speaking voice was a sign of my asthma. A few years later, I received confirmation of that realization through an article about autoimmune conditions in The Voice Foundation's newsletter: "In cases of pulmonary involvement … projection and vocal quality can be compromised" (Dominguez, 2019).

Soon after I started putting the pieces together and began taking a more appropriate dose of maintenance medication, my voice teacher at the time noticed the same change in the quality of my speaking voice. She encouraged me to save recordings (***Ex. 1 and 2***) of myself speaking before and after being on the new medication.

The audio of Ex. 1 and Ex. 2 can be found in these videos:

Ex: 1 (Before Medication) - https://youtu.be/J2ith4brJII

Ex: 2 (After Medication) - https://youtu.be/mfwBLss2rPE

During adolescence and throughout my 20s and early 30s, the question of my burgeoning Fach also became a lasting topic of debate. While just about everyone I sang for agreed that I was destined to sing dramatic repertoire, there was less agreement on what I should sing in the meantime. My voice felt most comfortable in medium keys and the lyric roles often sung by both mezzos and sopranos; roles that mezzos find uncomfortably high and sopranos find uncomfortably low. After being pushed away from mezzo repertoire and constantly stymied in my efforts to find my place as a soprano, I started dipping my toes into more dramatic Zwischenfach (between mezzo and soprano) roles. Something clicked. The music felt good in my voice, and I got positive feedback on it from just about everyone who heard me.

Positive, that is, until a big audition in 2018.

Against my better judgement, I proceeded to sing despite being in the middle of the worst asthma flare I can remember. I should have gone to the hospital, but instead, I went to a hall on the Upper East Side of New York City and presented my best dramatic arias to a panel of judges. After months of nothing but encouraging responses to my new repertoire, they told me my voice sounded more lyric than dramatic and, therefore, didn't fit the pieces I had presented. As disappointing as that was, it seemed to provide insight into the disagreements on repertoire and Fach that had plagued my early training.

Though asthma is not an uncommon chronic health condition, recognizing its widely variable signs and symptoms is not always straightforward. Even with a clear diagnosis at a young age, it took me decades to fully understand my own condition, let alone its impact on my vocal training, and its signs went completely unrecognized by those around me. As an aspiring opera singer, the lack of recognition and care for my asthma proved critically detrimental to my voice training. Despite multiple signs that were frequently observed by voice professionals, the underlying cause of the challenges I faced as a singer remained obscure. Ultimately, however, my voice training held the key to getting appropriate diagnoses and proper treatment for my condition.

Once my asthma was effectively managed, I looked for resources on best practices for voice care and training for asthmatic singers. Frustratingly, research on the subject was extremely limited; however, the physical therapy community does have specialists who work in pulmonary and musculorespiratory rehabilitation (and habilitation for athletes). Several have created content outlining the impacts of compensatory breathing strategies and suggesting techniques that can be done on their own or, in

my experience, integrated into voicework to improve coordination of the respiratory muscles. While lung conditions cannot be treated or managed in the voice studio, we can help support students in using their respiratory muscles efficiently as long as any underlying condition is managed.

For those interested in learning more (see Further Resources for this chapter), I highly recommend:

- Breathe Well Physio's Blog (https://www.breathewellphysio.com/blog)
- *Practical Solutions for Back Pain Relief*, by Dana Santas, CSCS, E-RYT
- *Recognizing and Treating Breathing Disorders, A Multidisciplinary Approach*, by Leon Chaitow, Dinah Bradley, Christopher Gilbert

As with any suspected vocal pathology, referral to appropriate healthcare professionals is always advisable when there is a concern that breathing may be impaired.

For those with diagnoses looking for additional tips for the intersection of voice and lung care:

- Singers who experience voice effects after using inhaled medications may benefit from using a metered dose inhaler (MDI) with a spacer.
- A spacer is a tube that attaches to the mouthpiece of MDIs and helps ensure that the medication makes it into your lungs, rather than settling in the upper airway (MacNaughton, 2019).
- Singers who have trouble clearing mucus may want to discuss the possibility of using a Positive Expiratory Pressure (PEP) device with their care team. These devices, when used as part of airway clearance therapy (ACT), help air to get behind mucus, move it from the lung and airway walls, and hold the airways open for longer (Physiopedia, 2015).
- Those who use both an inhaled steroid for medical management of a lung condition and nebulized saline for topical vocal fold hydration may want to double-check with their doctor about appropriate timing/wait times between them.
- Just as athletes often use short-acting inhalers before exertion, some singers may benefit from using short-acting inhalers before singing, especially in environments that may contain asthma triggers. This is, again, an appropriate discussion to have with one's doctor.

- Controlling indoor air quality can reduce asthma triggers. AAFA.org recommends regular cleaning routines, eliminating strong scents, keeping indoor humidity between 30-50%, keeping windows closed during periods of poor outdoor air quality, and using HEPA filters.

Using a peak flow meter can help detect narrowing of the lower airways before noticeable signs and symptoms are present (AAFA).

Glossary

allergist: medical doctor specializing in the diagnosis and treatment of allergies.

allergy: an immune response by the body to a harmless foreign substance.

allergy shots: an allergy treatment that lessens the immune response by acclimating the immune system to the allergen.

apical breathing: a breathing pattern characterized by excessive upward movement of the sternum and shoulder girdle and minimal abdominal movement during inhalation.

asthma: a respiratory condition marked by inflammation, spasms, and mucus production in the bronchi of the lungs and resulting in difficulty exhaling.

autoimmune: diseases in which the immune system is activated against substances naturally present in the body.

chronic: persisting for an extended period of time or recurrent .

diaphragm: a thin skeletal muscle that separates the contents of the ribcage from the contents of the abdomen and contracts to create a vacuum effect in the lungs during inhalation.

disability: a physical or mental condition that limits movements, senses, or activities. (See also: Kolin)

dynamic disability: a disability that fluctuates in severity, symptoms, and/or impact . (See also: Ko.)

ENT: a medical doctor specializing in conditions of the ear, nose, and throat.

exercise-induced asthma: intermittent narrowing of the lower airways brought on by exercise.

Fach: a system of classifying operatic voices by vocal range, weight, quality.

flare: an increase in symptoms of a chronic illness.

inhaler: a portable device for administering inhaled medications.

maintenance medication: medication prescribed and taken for ongoing treatment of a chronic illness.

managed: a state of control of chronic illness symptoms which results in a stable baseline with minimal limitations on movement, senses, or activities.

metered dose inhaler: an inhaler that delivers aerosolized medication in short bursts.

mucus: a slimy substance secreted by body membranes or glands for lubrication and/or protection of body tissues.

musculorespiratory: relating to the muscles of breathing.

nebulized: liquid converted into a spray fine enough to reach the lungs when inhaled.

paradoxical breathing: a breathing pattern characterized by an inward motion of the abdomen during inhalation and an outward motion of the abdomen during exhalation.

peak flow meter: a portable instrument that measures volume and rate of expiratory air flow.

pulmonary: relating to the lungs.

remission: a lessening of the intensity or seriousness of a chronic condition.

respiratory system: the physical structures (organs and tissues) that facilitate breathing.

short acting inhaler: an inhaler that delivers medication that temporarily alleviates pulmonary symptoms.

signs: objective indicators of a chronic condition that are observable by others and can be tested for.

spacer: a valved holding chamber designed to be used with metered dose inhalers to improve delivery of their medication.

sulfites: compounds that contain the sulfite ion.

symptoms: subjective indicators of chronic conditions that can be felt by the affected person.

triggers: something that instigates an increase in chronic illness symptoms.

Ventolin: a medication that treats or prevents spasms of the smooth muscles in the lower airway.

wheeze: a sound in the chest that results from obstruction of the airways in the lungs.

Zwischenfach: a voice that falls between the traditional vocal categories outlined in the Fach system.

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Author Biography

Bryn Jimenez has appeared in operas, oratorios, concerts, and recitals in North America and Europe and has received several awards and scholarships from organizations in the United States and Canada. She has also taught voice students of diverse ages, levels, and backgrounds for almost two decades. Her focus in the studio is on empowering students to better understand their own voices and to balance and supplement their inherent vocal and performance strengths.

Her own health struggles sparked Bryn's interest in the overlap of disability and voice care and training. She is particularly interested in the intersection of respiratory and vocal health and function. This, in turn, inspired her to pursue certification as a Speech Language Pathologist, with the long-term goal of working with clients whose experience with voice is complicated by chronic illnesses and other disabilities. She is currently completing her Masters of Science in Communication Disorders and Sciences at California State University, Northridge.

Bryn currently holds a Certificate of Advanced Studies in Communication Disorders and Sciences (pre-SLP) from California State University, Northridge and certification from the Victoria Conservatory of Music's Teacher Training Program, which emphasizes pedagogy and appropriate repertoire for voices of all levels and at all stages of physiological development. In addition, she has degrees in Vocal Performance from Camosun College in conjunction with The Victoria Conservatory of Music and from Thompson Rivers University in conjunction with the Vancouver Academy of Music.

14. Voice as Disability: Supporting Students Through Vocal Fold Injury and Voice Impairment

Anne Slovin

Audio of this chapter is available here: https://www.youtube.com/watch?v=ANrKXABxj-Y

For professional voice users, including singers, teachers, and even politicians, consistent and reliable vocal function is a necessity to perform their jobs well. A use injury like nodules or polyps has the potential to disable someone who uses their voice for a living, but there is currently no formal consensus regarding how universities and conservatories should handle it when a vocal fold use injury or a functional problem prevents a student from doing their work. These types of injuries are most often not understood as disabilities that can be officially accommodated. However, reframing use injuries in singers as both medically and socially disabling, leading to very real vocal impairments as well as potential isolation and stigmatization, can help both students and teachers to navigate them.

My Experience

Although I did not realize it at the time, I struggled with vocal impairment due to nodules for most of my teenage years. I cannot pinpoint exactly when my use injury developed, but throughout high school, I worried about my voice's reliability, required more rest than my peers to recover from a day of heavy singing and speaking, and frequently experienced hoarseness and voice loss, especially during rehearsal periods. My friend Jaime recalled recently that in high school, I always had to turn down invitations to the bowling alley, because my vocal stamina was not up to speaking over the noise. Nevertheless, I was able to perform several leading roles in my school musicals and successfully auditioned to major in vocal performance at Northwestern University.

During my junior year of college, my teacher recommended that I get scoped following a bout of strep throat, after which my voice took a long time to recover. I was diagnosed with nodular swellings, or nodes, and began a course of voice therapy. I was encouraged to seek surgical means of resolving this injury right away, but because I had been accepted into a summer voice program, I chose to wait. In the fall, I was cast in a

leading role in my school's opera production—nodes and all! However, that experience showed me just how unreliable and variable my vocal function was, and I began to see that if I wanted to pursue a career as an opera singer, I would need to have my nodes removed. My surgery took place on May 20th, 2009, and thankfully, I was able to walk in graduation with my peers, despite needing to complete my senior recital in November.

Vocal Disorders as Disability

In the months leading up to my surgery and while finishing my degree post-surgery—and indeed, after disclosing my injury in the first place—I was strongly supported by my voice teacher, other faculty members, and administrators. It never occurred to me to contact campus Disability Services, because I would not have considered myself disabled in any way.

However, according to Tanya Eadie and Derek Isetti's article "The Americans With Disabilities Act and Voice Disorders: Practical Guidelines for Voice Clinicians," certain kinds of voice disorders can meet the criteria for legal disability (Eadie and Isetti, 295). When the law was originally passed in 1990, temporary voice disorders (those that would not be significantly improved within six months of onset, or with medical intervention) were not considered for workplace accommodation. The list included disorders like vocal fold paralysis or paresis and spasmodic dysphonia, all of which significantly impair a person's ability to communicate. Amendments made in 2008 allow for "episodic conditions" that may have flare-ups (for example, muscle tension dysphonia, which is often worse at different times of day, or what contributor Molly Noori calls vocal "glitches" from her neurological condition) and other kinds of functional disorders. The authors note that:

> ...[t]here is also no stipulation in the current law that a disability that is behaviorally based would be excluded from qualification… other conditions that are associated with smoking or former substance abuse…are listed as potential disabilities. Therefore, individuals with voice disorders secondary to phonotrauma or those that are functional in nature including MTD, functional aphonia, vocal polyps, granuloma, and vocal nodules, among others, may also be entitled to protection under the ADA. (296)

Eadie and Isetti continue by listing sample workplace accommodations including increase of text-based communication as opposed to telephone speech, the use of amplification, and flexible hours to allow for worsening symptoms (297).

Eadie and Isetti's article does not, however, discuss how vocal impairment may impact a voice user's work in professional music or in a conservatory setting. Vocal fold injuries are often not discussed openly in music schools, and many voice students prefer not to know what kinds of injuries they might experience during their singing careers. However, a frank discussion of types of injuries, symptoms and treatment protocols in both the studio and the classroom can go a long way towards removing some of their anxiety. In their article "Dispelling Vocal Myths, Part 3: 'Sing OVER Your Cold!'," Deirdre D. Michael and George S. Goding note that nodes are "relatively innocuous": "Like the calluses on the finger tips [sic] of guitar players or the feet of barefoot walkers, vocal fold nodules are an appropriate response to increased and repetitive local trauma" (Michael and Goding, 491). Additionally, not all vocal fold anomalies impact phonation; for example, although nodules always develop in the middle of the vocal folds where the contact is the highest, leading to difficult adduction or vocal fold closure, a polyp can occur in a location that does not impede phonation (Araujo, Gomes, and Vasconcelos, 116). Sharing these facts about vocal fold injuries and their frequency can help to make them feel less alarming to students.

More importantly, though, it is crucial to understand that people experiencing vocal fold injuries or pathologies can still study singing and continue their course of study. Although the treatment for a vocal fold hemorrhage, a more acute occurrence than nodules or polyps, involves a longer period of vocal rest, only modified vocal rest is required for the alleviation of nodules, while polyps usually do not respond to voice therapy. Voice teachers can certainly continue to teach students who are diagnosed with use injuries, in collaboration with a voice therapist or singing voice specialist like Lori L. Sonnenberg, who offers "7 Ways You Can Support a Singer Through Vocal Injury as a Voice Teacher" on Instagram (Lori L. Sonnenberg, @sonnenbergvoice, February 20, 2024). Sonnenberg recommends not only learning the symptoms and various presentations of the student's injury, but also collaborating with the student to understand their baseline of vocal function and to incorporate vocal therapy exercises from the student's SLP into voice lessons.

Asking questions of students regarding their day-to-day function is also crucial, as Sonnenberg's last slide reads, "Don't ask too much: NEVER ask or expect your student to sing when their voice is impaired" (@sonnenbergvoice, February 20, 2024)) As with other kinds of disabilities and chronic illnesses, students understand their own bodies and sensations better than we can as their teachers; we can help them learn to determine when their voice is in good shape and when they need to rest. Students who are prone to overusing their voices may learn to track their voice usage using Theresa

Brancaccio's app Singer Savvy (Brancaccio 2020), which helps them to understand vocal load, pacing, and what causes vocal fold fatigue and swelling.

Thus far, I have considered vocal fold injury through the medical model of disability—that is, the idea that disability arises solely from individual physical impairment. However, looking at this issue through the lens of the social model of disability (and considering the other essays in this volume), it is clear that the assumption of vocal "normalcy" "is constructed to create the 'problem' of the disabled person" (Davis, 3). Vocal impairments are disabling in large part because of the culture and curriculum of many voice departments that rely on students maintaining perfect vocal health. Students may experience social isolation as a result of their need to modify their vocal load; their technique and identity as a vocalist may be called into question if their diagnosis becomes widely known. The extent to which students experience social and academic consequences, as Emily Siar points out, "exists within and is ostensibly informed by the culture of their educational institution and department…" (Siar, 3). Every school has a different culture and attitude towards vocal fold impairment, and no experience is universal.

Accomodations for Voice Disorders and Injuries

If vocal fold injuries and other pathologies are treated as disability, institutions might consider implementing accommodations similar to those implemented for other physical disabilities as well as neurodivergence. Siar notes that "[r]esearchers have yet to explore student experiences of voice impairment, an element of institutional climate, utilizing the rigor of a mixed-methods approach" (Siar, 26), although voice majors with other disabilities and instrumentalists have been studied to a certain extent. Her respondents seemed surprised to be asked whether they had reached out to the university-wide Accessibility or Disability Services office for accommodations; several of them said they hadn't thought of it, while others shared that their particular issue did not prevent them from completing their work (Siar, 111). Siar suggests that the stigmatization of both disability and vocal fold injury or disorder makes seeking external assistance less likely.

Despite the currently low probability of students with voice disorders contacting the Office of Accessibility or Disability Services, Siar hypothesizes that involving this office could "take the burden off students" to advocate for themselves or prove a high enough level of impairment. Siar continues, "The Office of Accessibility/Disability Services could attend voice health workshops and clarify that voice impairment may constitute a

legitimate disability in the context of a voice student's education, encouraging students to seek out the resource if applicable" (Siar 111). It would be beneficial to continue to research and brainstorm areas in which voice majors dealing with use injuries or other voice disorders might need accommodations. In the meantime, here are some possibilities that schools might explore depending on the severity of the student's vocal impairment, many of which have been inspired by my own experience or that of my colleagues.

1. Vocal Load Adjustments
    a. Excuse the student from choral obligations while rehearsing an opera or musical.

    b. Ask the student to write a paper or prepare a creative project instead of singing in a diction or song literature class.

    c. In very extreme cases, allow the student to study a secondary instrument for a semester while attending voice therapy and healing.
2. Adjusted Rehearsal Schedule if Cast in an Opera/Musical
    a. If a show is double-cast, allow a student to walk staging while their double sings when a break is needed.

    b. Schedule longer or more frequent breaks for the student to recharge and have a vocal "nap."

    c. Encourage marking or speaking text instead of singing whenever possible.

    d. Inform the student as far in advance as possible if they will need to "sing out" in rehearsal so that they can prepare accordingly.
3. Changes to Recital Repertoire or Format
    a. Depending on the student's needs, change keys or program less demanding repertoire.

    b. Permit a shorter sung program alongside a lecture, research paper, and/or other creative work.

    c. Perform a multi-instrument recital to take the load off the voice.

4. Grading Juries and Recitals on a Scale That Takes Vocal Impairment Into Account if Necessary

    a. Assess the student on objective skills like diction, musicianship and acting.

    b. Allow “less advanced” repertoire for grade level (similar to recital repertoire) without consequences.

    c. Delay juries or recital without academic consequences.

    d. Students should not feel financial or academic pressure to complete a jury or recital if they are too vocally impaired to do so.

The most important thing we can do to support singers and professional voice users dealing with vocal fold injuries or functional challenges is to amplify and clarify the facts about these types of disorders. Posts on social media about working with injured singers frequently elicit emphatic suggestions that such a person should not be singing at all with an injury and must stop studying voice until it is resolved. However, these comments not only limit the body autonomy of these singers, but also remove vocal fold injury from the conversation and singers with injuries from the profession. Emily Siar’s respondents “reported feeling isolated and alienated from their peers during their period of voice impairment” (103), when in reality, experiencing vocal fold injury is not uncommon! We would all benefit from better understanding—and thereby destigmatization—of use injuries, functional disorders, and their treatments in order to better support students dealing with these challenges.

Glossary

granuloma: also known as a “contact” granuloma. “A benign tissue reaction or growth, typically on the posterior third of the vocal fold, that occurs in response to injury” (Bastian).

hemorrhage: vocal fold bruising caused by the rupture of a capillary (blood vessel) in the vocal folds, so that blood leaks into the tissue. This may occur due to intense phonation/phonotrauma, which includes singing, shouting, aggressive coughing or sneezing. Superficial bruising may not impact the voice or develop into anything more serious; however, a hemorrhage to the deeper layers of the vocal folds can create a small “puddle” of blood or blood blister. Untreated, this kind of hemorrhage can cause a polyp to form (see below).

muscle tension dysphonia: functional voice disorder often characterized by excess tension of both the laryngeal musculature and the pharyngeal constrictors, possibly leading to pain or discomfort, an open posterior gap in the vocal folds during phonation, and a high larynx position. MTD is often accompanied by a mucosal injury like nodes or a polyp, due to the excess pressure and vocal fold contact needed to create a clear tone.

nodes (nodular swellings): small bilateral swellings (one on each vocal fold) located in the middle third of the vibrating edge of the vocal fold. Nodes impede vocal production by preventing the vocal folds from adducting correctly. They are caused by continuous phonotrauma (see below) despite vocal fold swelling. Nodes often resolve with vocal therapy and modified vocal load if they are diagnosed early.

spasmodic dysphonia: “a non-life threatening neurological disorder in which the muscles of the larynx involuntarily spasm and interfere with the voice” (Bastian).

phonotrauma: high levels of voice use and/or vocal fold contact.

polyp: usually a unilateral swelling (unlike nodules, which are always bilateral), caused by phonotrauma after hemorrhage (see above). Polyps may or may not impact the sound of the voice depending on their location. However, polyps do not respond to vocal therapy and can only resolve through a surgical procedure.

vocal fold paralysis: total immobilization of the vocal folds, caused by damage to the recurrent laryngeal nerve, different branches of which innervate the vocal fold adductors and abductors. Paralysis may affect one vocal fold (unilateral), or both vocal folds (bilateral), and depending on the location of the damage to the nerve, both vocal production and breathing may be impacted.

vocal fold paresis: “partial loss of voluntary motion for one or more of the muscles that move the vocal cords” (Bastian).

vocal fold swelling or edema: a condition caused by phonotrauma, in which fluid pools beneath the top, mucosal layer of the vocal folds. Edema may lead to hoarseness and difficulty phonating, but it is usually resolved with a short period of vocal rest.

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Author Biography

Anne Slovin joined the voice faculty at the University of Georgia in fall 2025, after completing her doctorate at Indiana University's Jacobs School of Music. Her dissertation research proposes a disability-informed approach to voice pedagogy to provide emerging voice teachers with the strategies and understanding they need to make voice training more accessible . She has presented this research at the International Congress of Voice Teachers in Toronto, as well as at the OHMI conference on music and physical disability in Birmingham, UK. She will also present with Dr. Emily Siar on supporting voice students with vocal fold use injuries at the 2026 NATS National Conference in San Antonio. In addition to her research and presenting, Anne is an active performer; in 2023, she premiered the title role in Shulamit Ran and Charles Kondek's *Anne Frank* with IU Opera Theatre, and in 2015, she joined Lyric Opera of Chicago Unlimited to create the role of Mica Segal in Wlad Marhulets and Stephanie Fleischmann's *The Property*. Other favorite operatic roles include Hanna Glawari in *The Merry Widow*, Clara in *It's a Wonderful Life*, and Micaëla in *La Tragédie de Carmen*.

IV. Voices from the Opera Industry: Creating Disability-Affirming Opera

15. On Safety: A Personal Account of Dynamic Disability and Evolving Needs in Operatic Spaces

Jacqueline Ko

Audio of this chapter is available here: https://www.youtube.com/watch?v=GgDtSqEPNIA

I consider myself lucky that I knew from the start that my career would not follow the "traditional" path—a university degree, competitions, young artist programs, traveling and auditioning around Europe. Being armed with that knowledge from the very start, painful as it was to accept, meant that I was able to build a space for myself. And for others, as it turned out.

When my colleague Robin Hahn and I first conceived Opera Mariposa, I didn't realize we were creating Canada's first disability-led and run opera company. It wasn't until years later that we realized that, at heart, we had built a space with accessibility as a foundational aspect.

I had been diagnosed with myalgic encephalomyelitis, sometimes known as chronic fatigue syndrome or ME/CFS, at the age of 10. ME/CFS is a complex multi-system disease with over 60 symptoms, characterized by debilitating fatigue unrelieved by sleep, and the marked worsening of symptoms after even minor physical or mental activity (post-exertional malaise). There is no cure for ME/CFS, nor any approved pharmacological treatment. The main management tool for ME/CFS is careful pacing, sometimes referred to as "staying within your energy envelope." At the age of 12, the illness forced me to put my schooling on hold. At the time I believed it would be a temporary pause to allow me to recover, but my schooling has not resumed to this day.

My first voice lesson preceded my diagnosis by a matter of weeks, and throughout the next couple years of trying (and failing) to balance the demands of schooling with my health needs, one fact remained clear to me—I wanted to have a career as a singer. However, as my high school education slipped away, my dream of completing a degree in opera and pursuing a professional career on the stage seemed incredibly distant.

Learning how to work with an illness like ME/CFS, with all of its ups and downs, takes time. I recall describing it at the time as “two steps forward, one step back”: do something, pay for that activity, then see where I am. My energy envelope is a constantly shifting thing, depending on a variety of factors—my recent activity, whether I’ve slept enough, my hormones. After over 20 years of living with this illness, I sometimes feel like my knowledge of my own body and its limits is still as vague as it was in those first terrifying years. And that raised a difficult question: how could a teacher know what was safe for me if I myself didn’t know?

I was lucky enough to have always had voice teachers who were understanding and fully supportive of my needs. My current teacher has never made me feel that I am interrupting the workflow by needing to rest periodically through lessons (in fact she is often the one who reminds me to take breaks), or by needing to sing sitting or lying down, or by not being able to sing the exact same way every lesson. My teachers have always understood that each and every lesson would be informed by factors beyond my control, and that being able to maintain my health while still singing was more important than anything else.

When discussing my health, my teachers were always open to letting me take the lead, but also made a point of continuing to check in and ask me what was possible for me and what I needed, removing the pressure of having to constantly advocate for myself mid-lesson.

Advocating for my needs at that early stage was difficult, for a variety of reasons—I was a teenager who did not want to be disabled and who did not even fully understand my own illness yet. Terms like “dynamic disability” and “post-exertional malaise” had not yet entered my vocabulary and my understanding of those concepts was vague at best, making it difficult for me to explain why what was possible one day was not possible on another, or why I might not be able to predict what I could do each day. Simply having someone believe me when I voiced my needs was a huge relief, especially after being subjected to disbelief from the school system and medical gaslighting from doctors.

While my teachers have always taken my needs seriously, letting me set the tempo of our work, they have also never assumed that I could not do something because of my disability. My voice teachers were some of my very first employers in the opera world. I was still a teenager when I began making appearances in professional shows, first in the occasional concert and then in operas. It was through their guidance that I began to

learn what it took to put together a show, both from the perspective of a performer and from that of a producer.

Their guidance opened up a world of possibilities to me. Their knowledge as producers as well as teachers showed me that there were ways for me to be onstage and build a career that didn't involve university degrees or traveling across the country for summer programs, or intensive rehearsal schedules that were simply not accessible to someone like me with a limited energy envelope. By the time I was sixteen, the seed that would become Opera Mariposa had been planted, although it wouldn't come to fruition for another four years.

At the start, we did not call Opera Mariposa a disability-led and -run opera company, but it was indisputable that a large part of our motive in creating it was to make productions that were accessible to me. I have performed with many companies locally, but finding opportunities that are accessible to me is and has always been a challenge. We billed ourselves first as an opera company "by young artists, for young artists," but we also didn't hide our additional motivation of trying to create performance and rehearsal schedules that could accommodate my needs.

Our first priority was scheduling—I've rejected or simply not auditioned for many opportunities due to scheduling that was inaccessible to me. Having a rehearsal schedule with sufficient dark days to allow myself recovery time and to be able to constantly reassess my health without relying solely on adrenaline to carry me through the entire process was essential. Keeping rehearsals more spaced out and primarily in the afternoons and evenings also had an added bonus of making our productions accessible to other performers who were still in school or who had other jobs.

As we continued, we found more and more aspects to take into consideration—costumes that could accommodate medical devices and temperature regulation issues, having allergen-safe food and drinks available at rehearsals for those who needed to snack regularly while working, having masks available for singers who were concerned about passing along colds.

Over time, I found that being open about the reasons behind Opera Mariposa's processes made it easier for me to discuss the demands of my specific illness with my colleagues. Most performers are familiar with the boom-and-bust cycle of adrenaline that comes with performing live, so I found it easier to explain the post-exertional aspect of my illness to my colleagues than to others in my life. However, I have been

cautious about how and when I would discuss it. There were multiple reasons for that: initially I was reluctant to discuss a diagnosis I was still processing, then I was simply tired of having to make the same explanations and correct the same misconceptions over and over. No, I don't just "need to sleep a lot"; yes, it is a real illness; no, it isn't "just depression." Later, there were other factors: I didn't want to hurt my chances of being cast; I wanted to prove myself a reliable performer before mentioning it, so my employers and colleagues wouldn't think I was simply being a diva if I needed to ask for accommodations. The process of coming out as disabled in professional settings is never ending—each new director, each new company, each new group of people, meant another round of explanations, but I have generally found the world of opera to be more forgiving than other areas of my life.

I didn't realize at first how much my openness would resonate with my colleagues, whether or not they had their own health challenges. There are many potential barriers to an operatic career—physical, temporal, financial, and, more recently, immunological—and simply being open about my own challenges allowed Opera Mariposa to offer performers a place where they could feel safe to express their own needs, whether they be health concerns or scheduling around their other life commitments. Over time, accessibility became a much more prominent part of our messaging, and the idea of "by artists and for artists" evolved to mean holding space for everyone to express their needs.

In 2020, the landscape shifted under me again with the onset of the COVID-19 pandemic. Post-viral onset of ME/CFS is incredibly common, including in my case, and other coronaviruses were already known to have caused cases of ME (Lam et al. 2009), so I knew right away that even a mild case of COVID held the very real possibility of damaging my health to the point of leaving me bedridden and tube-fed, unable to tolerate any light and noise. The one silver lining of the situation was that at least I wasn't navigating these immunological challenges alone this time. It is a bitter irony that, in many ways, lockdown was more accessible to me than the world currently is.

The ongoing pandemic has forced me to change how and when I discuss my health. I no longer have the freedom to decide when to come out as disabled to companies and potential employers. Now, every offer and opportunity must be met with an explanation of my needs and a series of questions about what mitigation factors will be in place. Will there be air filters? Is testing required at rehearsals? Will the performers and audience be masked?

While the ongoing pandemic has brought my disability to the forefront of my career, it has severely curtailed the opportunities available to me. I am once again faced with the same question that has plagued me my entire career: is this opportunity safe for me? Overwhelmingly, the answer is no. Any fears I had about my disability affecting a company's willingness to hire me have become moot—at this point, I am having to rule myself out of the casting process due to the opera world at large no longer being safe for me in its current state.

I know that I am not alone in this situation. There are many other opera industry professionals, both onstage and off, who have felt the need to step back from a majority of the work they have done in the past due to the ongoing pandemic. There are many others who are experiencing new health challenges due to the disabling effects of COVID. If opera is to continue as an art form, we cannot continue to lock out an ever-increasing number of professionals, not to mention potential audience members.

Nowadays, my career is limited to what can be done from my own home—voice lessons over Zoom, and occasional rehearsals with a pianist, 20 feet apart, with HEPA air filters, masks, and negative COVID tests prior. I have recorded videos and singles. None of it is equivalent to what I was doing prior to 2020, and it has only been possible through great personal expense (recording equipment, software, lighting, not to mention HEPA filters and other necessary safety equipment) but it is what is safe for me at this time.

Through all of this, my teacher has been an unwavering source of support for me. When COVID was beginning to make news but before any formal lockdown was instituted, she made sure to contact me to discuss necessary steps to ensure my safety. Five years on, though most others have resumed in-person lessons and performances, my involvement in her studio remains entirely digital. She has never once treated my needs as an inconvenience, even when I am the only one appearing at a master class via Zoom. We continue to problem solve together to allow me to contribute as an equal member of her studio.

I firmly believe that I am not done with my performance career. There are steps that venues and companies can take to make performances a safer space for audiences and performers, and there is continuing research being done into treatments and prevention of COVID. I believe there will come a time when it is safe for me to venture outside of my home and perform in front of a live audience again. But until that time, I can only reach my audience via screens. I can only hope that my voice will still be heard as clearly.

Considerations for Producing Opera More Accessibly:

- Are discussions of accessibility part of the planning stages, or do they only occur when an issue is raised by a performer/crew member/audience member?
- Are multiple forms of accessibility (physical, cognitive, temporal, financial, immunological) being taken into consideration?
- Are you fostering an atmosphere where sharing access needs is the norm, or are you putting the onus entirely on the performers to advocate for their needs?
- What steps are being taken to protect performers, crew, and audience members from airborne illnesses?

Glossary

dynamic disability: a disability with fluctuating symptoms and severity level. A person with a dynamic disability may use mobility aids only some of the time, may have different access needs at different times, and may not be able to predict the severity of their symptoms on any given day. (See also: Jimenez.)

dysautonomia: also called autonomic dysfunction. The dysregulation of the autonomic nervous system, potentially affecting the heart, bladder, sweat glands, pupils, and blood vessels. Occurs in multiple conditions including ME/CFS, POTS, and Ehlers-Danlos syndrome.

energy envelope: a self-management tool with the intent of not expending more energy than the patient has (“staying within their energy envelope”). See also pacing.

medical gaslighting: the experience of having medical professionals dismiss, downplay, or invalidate symptoms or even entirely deny a patient’s illness, frequently leading to incorrect or delayed diagnoses and potentially causing harm via inappropriate and harmful treatments. (See also: Stryker, Wright.)

myalgic encephalomyelitis: sometimes known as chronic fatigue syndrome, ME, or ME/CFS. A complex multi-system chronic illness with over 60 symptoms. The cause of the disease is unknown and there is no diagnostic test available, no approved pharmacological treatment or cure. Diagnosis is achieved by the exclusion of other diseases with overlapping symptom sets.

orthostatic intolerance: the worsening of symptoms when sitting or standing upright. Can be a subcategory of dysautonomia. There are multiple types of orthostatic intolerance, including Postural Orthostatic Tachycardia Syndrome (POTS).

pacing: an activity management strategy for ME/CFS and other chronic illnesses aimed at limiting the number and severity of relapses (see post-exertional malaise). Pacing can involve careful scheduling and planning activities in advance, taking regular rest breaks, and limiting activities so as not to reach a state of overexertion leading to PEM.

post-exertional malaise: also known as PEM or post-exertional neuroimmune exhaustion (PENE). A marked worsening of symptoms after even minor physical or mental exertion. One of the hallmark symptoms of ME/CFS. PEM is often disabling, and can be triggered by ordinary activities such as having a shower or reading a book. PEM can begin 12-48 hours after the activity and can last for days or weeks. The main management tool for PEM is pacing.

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Further Resources

Bateman Horne Center: A group founded in 2015 with the goal of advancing research and improving clinical care for patients with ME/CFS, fibromyalgia, and other post-viral illnesses. Their website has educational resources to assist in the diagnosis and management of ME/CFS, fibromyalgia, and Long COVID, and their YouTube channel has educational videos for patients and medical professionals.

MEAction Network: A patient advocacy group, creators of the #MillionsMissing protest campaigns and the website MEpedia. Focused on advocacy, outreach, and better medical education about ME/CFS and related illnesses. Representatives of the group worked on a CDC committee to help revamp their public-facing pages on ME/CFS in 2016. The ME Action website has printable handouts, factsheets, and resources for navigating the healthcare system with ME/CFS. They also have a podcast on Apple Podcasts and Spotify

MEpedia: Founded by the ME Action Network, MEpedia is a Wikipedia-style resource with articles on ME/CFS and related topics (other illnesses that are frequently co-morbid, researchers, advocacy groups, public figures with ME/CFS and related illnesses). It also has primers on ME/CFS for patients, medical professionals, and the public.

Open Medicine Foundation: A non-profit established with the goal of initiating groundbreaking research into ME/CFS and other complex chronic diseases such as fibromyalgia, Lyme disease, and Long COVID. They are running several projects and studies, including the End ME/CFS Project, which has the goal of finding a diagnostic tool for ME/CFS, delivering treatments, and ultimately finding a cure. Their advisory board includes world-renowned researchers, and they have collaborative centres around the world. Their website has resources for medical professionals and for patients, and they have a YouTube channel featuring research updates, patient stories, and public talks on ME.

Opera Mariposa: Founded in 2012 by Jacqueline Ko and Robin Hahn, Opera Mariposa is Canada's first openly disability-led and run opera company. Since its launch, Opera Mariposa has held annual Benefit + Awareness events to raise funds for chronic neuro-immune diseases, and has raised over $140,000 as of December 2024. Their website also has a variety of resources on opera, disability, and COVID safety.

Author Biography

Jacqueline Ko (she/her) is a multi-award-winning soprano, producer, model, and disability advocate and the founding artistic director of Opera Mariposa, Canada's first openly disability-led and run opera company. In addition to singing roles such as Fiordiligi in *Così Fan Tutte*, Angelica in *Suor Angelica*, Sharon in *Master Class*, and the Queen of the Night in *Die Zauberflöte*, Jacqueline's annual Benefit + Awareness events have raised over $140,000 for ME, Fibromyalgia, Long COVID and other complex chronic diseases. Thanks to her work advancing disability visibility in the arts, in 2019 she was selected to become the first Canadian Ambassador for the Open Medicine Foundation, a global organization whose other representatives include international bestselling authors and Nobel laureates, and in 2022 she was awarded Lifetime Honorary Membership in the ME | FM Society of BC. You can connect with her at JacquelineKo.com.

16. Fundamentals of Disability Inclusion for Opera Administrators

Gregory Moomjy

Audio of this chapter is available here: https://www.youtube.com/watch?v=hXzscqwxnyk

As someone who has loved opera all his life and who is now the artistic director of his own company, I've seen a lot of theater in the decades that I've been in the industry. However, when I saw Laura Winters' play *All of Me* in the spring of 2024, I witnessed something truly groundbreaking. On the surface, *All of Me* is a romantic comedy, but both leads use power wheelchairs and communicate with text-to-speech devices. Furthermore, although *All of Me* is a straight play, it's all about vocal music, how we define singing, and the different ways people can use their voices. The female lead is a jazz singer who was recently diagnosed with muscular dystrophy and has started using a communication device. As her relationship progresses, so does her realization that although she has a newly acquired disability, she can still sing; it just looks different—whether she's using her communication device to simply speak the lyrics to Sir Mix-A-Lot's "Baby Got Back" or performing a jazz standard like "At Last" by just singing vowels.

All of Me is part of an uptick in disability representation in straight theater. The recent revivals of *The Glass Menagerie*, *A Doll's House*, and *Macbeth* all feature actors with disabilities (Collins-Hughes 2024). It might be surprising to learn that not all of these productions were mounted by an all-disabled creative team. For instance, Laura Winters does not identify as disabled.

So what did they get right? And what can opera learn from straight theater? The answer is that accommodations are not necessarily scary and are most often cost-effective. And even more surprising, production teams just ask simple questions and involve the perspectives of others.

Disability representation in the vocal performing arts is a vast subject. The performing arts and the Disability community have always been in dialogue, but that dialogue has only recently garnered more attention. Speaking as someone who has Congenital cerebral palsy, and whose love of opera has developed simultaneously with my

understanding of my disability, I will attempt to provide a brief sketch of many areas where disability and vocal performance interact. I will pay special attention to what I've learned as artistic director of Opera Praktikos (Oprak)—New York City's first disability-affirmative opera company, founded in 2021. What I offer here is by no means a complete blueprint demonstrating how to incorporate disability and the classical vocal arts. Rather, this is a baseline of knowledge that readers should then add to through their own experiences.

As any other marginalized community does, disabled people have to acknowledge that the world is largely set up to exclude them, and the world of classical vocal arts needs to examine the structures that prevent the disability community from fully participating. However, what's unique about the disability community is that when we talk about power structures, sometimes that includes the literal structures in which performances and auditions are held. Certain theaters or theatrical organizations, like the Jujamcyn Theater Group on Broadway, do not have basic accommodations like accessible bathrooms. This means that disabled patrons have to leave the theater to use the bathroom at nearby shops and restaurants. It goes without saying that in order to hire performers with disabilities, these organizations need to provide access to bathrooms throughout every stage of a show's run, from the beginning of rehearsals to closing night. For more information on accessibility settlements at places like the Jujamcyn Theater Group and the Metropolitan Opera, see New York Times 2021.

This is why at Opera Praktikos the first step in creating a show is always choosing a venue. And yes, part of that is making sure that the bathroom is accessible. This does not only mean that a wheelchair user should have enough room to navigate the bathroom in their wheelchair, but it also means that there must be bars around the toilet in order to help people transfer from the chair to the toilet seat if they are capable of transferring by themselves. I use a power wheelchair, and when I scout venues for Opera Praktikos, I always make sure there are bars in the bathroom, and that I can make 360-degree turns in the bathroom. If the performance is not in a traditional theatrical space, then you might need to rent an accessible portable toilet.

Additionally, as with other accessibility needs, it's important to go directly to the community. At Oprak we use AXSMap. This is a crowd-sourced service app that shows a map of all the accessible buildings and entryways in New York City. Another key part of ensuring that a performance is accessible to all is providing the performers with the proper accommodations they need to give the best performance or audition. The best way to follow through on this is simply to be in communication with the performers

throughout every stage of production, from auditions to closing night. Trust that the singer knows what they need to give their best performance. You can simply ask singers to list needed accommodations on a form.

If this sounds obvious or intuitive, it's because it is. However, the sad fact is that the producers and heads of opera companies seldom ask the question. Part of the reason is the myth that accommodations are too expensive to provide. This is not always the case. Accommodations can be simple, such as ensuring the singer has a chair for their audition. Another basic accommodation would be building sets with sturdy fixed railings along the back wall so that singers with movement disabilities that affect their balance, such as ambulatory cerebral palsy, will have something to hold onto. Another more cost-effective solution is to think of creative strategies to include the disability as part of the production. If a singer with a movement disability is playing the town gossip, then you can easily have them make their entrances and exits with the aid of another singer for support. Simply have them act as if they are always in the company of others, in order to hear the news of what's going on in town. Yet another very simple and easy accommodation might be providing singers with a refrigerator in their dressing room so they can keep any medications they need at the proper temperature.

Also, it's just as important not to make assumptions about a person's disability as it is to listen to a performer who is asking for certain accommodations. If a producer or director has questions about how a singer's disability might impact their vision for a production, the best way forward is to have a conversation and work as a team. There is a chance that the performer might be able to manage that part of the production as it was originally conceived and, if not, come up with a creative way to adapt to that scene. For instance, the Phamaly Theater Company in Denver, Colorado is a disability-affirmative theater company that includes a musical every year as part of its season. They recently celebrated their 35th anniversary with a production of *A Chorus Line*. *A Chorus Line* is a dance-heavy show, with a large cast, yet Phamaly was able to cast a show with actors who have a variety of disabilities. There was a wheelchair user playing the role of Mike. Mike's big number "I Can Do That" is a tap number. Instead of having Mike do a conventional tap dance, the actor made use of his wheelchair. He wore gloves with metal attachments, which allowed him to create sounds that were analogous to tap dancing by hitting his hands against his wheels. Additionally, the other performers in the cast helped him do tricks in his manual wheelchair (Fitzgerald 2023).

It is also helpful to know accessible technology such as Appcompanist. This is an app that gives singers the ability to manipulate pre-recorded tracks as they prepare for

auditions. According to a video titled “Appcompanist in the Studio,” which is available on YouTube, the app allows the singer to change and highlight different aspects of the piece they are working on. For instance, singers can emphasize different parts of the melody, change the tempo, or transpose a piece to different keys.

Before moving on, it is imperative to realize that not all disabilities are visible. If someone says they have a disability that affects their ability to perform, believe them, even if their disability is not visible. Disabilities can take many forms and present in a variety of ways. This is especially important to take into account in a post-COVID world, where many performers are dealing with the effects of Long COVID, which may not be visible to an average audience at the theater.

As a disabled opera administrator with a background in historical musicology, I also believe that it is imperative to teach music students that disability has shaped vocal music for centuries, going back all the way to Hildegard Von Bingen in the 11th Century. Musicologists discuss Von Bingen’s contribution to the development of medieval polyphony, but not enough attention gets paid to her migraines and her possible epilepsy which caused her to have sacred visions which would then form the text of her chant (Callahan 2003). Music therapy is yet another way singers can get involved with the disability community. This is especially the case as more disabled adults look to manage their health with treatments that are less invasive.

A famous example of a disabled singer is Giovanni Batista Rubini (1793–1850), the renowned tenor of the bel canto era, who sang in the first productions of operas by the likes of Bellini. Supposedly, Rubini was well known for his impressive head voice. However, according to Cocophony! he injured his clavicle during a performance. Learning about Rubini can serve both as an example of a famous disabled singer and a cautionary tale about the dangers of not listening to your body and to be kind to your voice. The injury was caused by over-exertion and undue strain on the voice. Although Rubini saw a doctor, he refused to go on medical leave to recuperate and continued singing for the rest of his career with an injured collarbone (Braithwaite 2022).

Learning about composers and performers with disabilities, whether those disabilities be congenital or acquired, may also help students understand the circumstances that surround the creation of these composers’ works. Consider, for example, Maurice Ravel. Not only was his piano concerto for left hand written for a performer who returned from World War I as an amputee (Blain 2022),but also, by the time Ravel wrote his famous Bolero, he was suffering from dementia; this is why the Spanish folk song that

forms the basis of the piece simply gets repeated continuously with very little harmonic development (Straus 2011, 41). Students of contemporary music may come across Gabriela Lena Frank, whose opera *El Ultimo Sueño de Frida y Diego* has received much attention. Frank, who is a Peruvian composer, is also deaf. An understanding of how deafness informs her music will no doubt lead to more multifaceted performances.

Lastly, I want to stress the importance of involving the community when discussing the relationship between disability and vocal performance. For administrators, it is imperative not only to be in dialogue with disabled performers, but also to talk to the community at large and get their input when telling stories about disability. Look to other organizations such as National Sawdust, which is currently creating a new opera called *Sensorium Ex*. The opera will focus on disability and different ways of communicating. To stage this opera, producers have asked for community support in the form of advisory boards and community liaisons. In the process, they have widened the definition of the operatic voice to include things like text-to-speech software (*Sensorium Ex*, National Sawdust 2025).

Ultimately, when telling stories centered around disability and producing accurate and authentic disability representation, the end goal should be to create a richer, more diverse repertoire. Opera is in a period of transition. I believe that as we create its future, we need to tell the stories that are relevant to today's audiences. This includes stories from the disability community. There is nothing more powerful than the combination of words and music to elicit empathy for the experience of others. Creating stories with accurate and authentic disability representation and hiring singers with disabilities for both disabled and nondisabled roles will add nuance to the stories we tell, while simultaneously allowing the disability community to learn and grow from seeing themselves on stage.

Glossary

congenital cerebral palsy: the term cerebral palsy refers to a set of disorders that impact brain development or damage a developing brain, and in which motor control is affected. Congenital cerebral palsy begins during or before birth ("About Cerebral Palsy" 2025).

disability-affirmative: supportive of the idea that disability is part of human diversity, and does not equal deficit.

Long COVID: a long-term or chronic condition that follows infection with COVID-19 ("Long COVID Basics" 2025).

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Further Resources

Appcompanist: https://www.appcompanist.com/

AXSMap: https://www.axsmap.com/

Opera Praktikos: https://www.operapraktikos.org/

Laura Winters, *All of Me*: https://www.laura-winters.com/theatre

Author Biography

Greg Moomjy earned his Bachelor of Arts in Musicology from Fordham University in 2012, followed by a Masters of Science in Journalism from The Columbia School of Journalism in 2014. A passionate life-long opera lover, he has spent ten years covering trends in the field for outlets such as *Classical Singer* and *The Indie Opera Podcast*. He has also penned articles for *New Mobility*, *New Jersey Monthly*, and *PC Gamer*. In 2018 Greg delivered a lecture on Wagner and antisemitism at University of Pittsburgh's "Revolution of Tenderness" conference. As a disabled person with cerebral palsy, the intersection of opera and disability is a cornerstone of Greg's work.

This perspective informs his role as co-founder and artistic director of OperaPraktikos. New York City's first disability affirmative opera company. He served as assistant to the librettists for *Touch*, an opera by Carla Lucero and Marianna Mott Newirth on the radical life of Helen Keller, commissioned by Opera Birmingham, which premiered in 2024. Additionally, Greg is the resident musicologist for Divaria Productions, a New York City-based company dedicated to educating audiences about the historical circumstances surrounding classic works and watershed moments in operatic history.

17. Navigating Gaslighting and Invisibility: My Journey with Chronic Pain and Invisible Illness

Danielle Wright (They/Xe)

Audio of this chapter is available here: https://www.youtube.com/watch?v=l_Jjp2WyTk4

Living with chronic pain and invisible illness poses complex challenges, often exacerbated by societal misconceptions and systemic biases. In my personal experience, grappling with arthritic knees that ultimately required total replacement surgeries brought to light the harsh reality that I had been gaslit my entire career. The profound pain I endured, rendering simple acts like kneeling impossible without assistance (one of many examples), were dismissed and attributed to my weight rather than my medical condition. This narrative, woven with invalidation and disbelief, not only undermined my physical struggles but also eroded my sense of agency and autonomy.

The intersectionality of my experiences as a disabled human who at the time identified as a woman, compounded by the nuances of being a person of size, further complicated the narrative. As a fat, disabled individual, the layers of stigma and marginalization intertwined, shaping how my pain was perceived and, ultimately, dismissed. The systemic biases inherent in medical and societal frameworks often fail to recognize the unique challenges faced by individuals at the intersection of multiple marginalized identities. The erasure of my experiences, the minimization of my pain, and the gaslighting I endured were, in part, a product of these intersecting forces that perpetuate disbelief and invalidation. By recounting my journey, I hope to shed light on the intersectionality of disability experiences, emphasizing the need for empathy, understanding, and validation in supporting individuals facing similar battles.

Gaslighting, a subtle yet potent form of psychological manipulation, often manifests in the context of chronic pain and invisible illness. For me, the gaslighting began insidiously within the confines of the rehearsal room, where my limitations were met with doubt and scrutiny. The inability to kneel without excruciating pain was not met with compassion or accommodation but rather with skepticism and blame. I was repeatedly told that my struggles were exaggerated, that my pain was inconsequential, that it was a consequence of my weight rather than a legitimate medical condition.

This unwarranted disbelief clouded my professional journey, casting shadows of doubt on my experiences and exacerbating the isolation that often accompanies invisible illnesses—not to mention that due to my voice type as a dramatic mezzo-soprano, I frequently found myself cast in roles of older female characters. These characters often navigated struggles similar to those brought on by chronic pain and invisible illness, but the disconnect arose when my actual age did not align with the ages of these characters, leading to my experiences and challenges being dismissed and discounted as inconsequential.

Due to the detrimental treatment and gaslighting I experienced in the opera industry, I made the difficult decision to transition away from performing in opera, unless I took control and produced the performance experiences myself. The unsafe environment prevalent in the industry motivated me to establish Opera MODO, which I founded in Princeton, New Jersey, and later moved to Detroit. I envisioned the company as a safe haven that was sorely lacking in the opera world. As the director of most of Opera MODO's productions, I sometimes micromanaged the stage picture, but also allowed singers a great deal of physical freedom. I would ask a singer to arrive at a set point onstage by a certain line in their aria, but by whatever path and means felt right to them. I also involved them in the staging process using physical acting games like "sit, stand, lie." This gave singers the autonomy to find staging that was both possible for their bodies and also authentic to their characters—rather than my imposing staging on them or insisting on something that did not feel good. By using these and other inclusive practices (see list below), Opera MODO provided a supportive space for singers facing similar challenges to mine for thirteen successful years.

However, as a transgender individual, I continue to witness the opera industry lagging far behind in terms of advocacy and inclusivity, mirroring the stagnation seen in ballet, as well as in academia, where singers are typically first trained. Although transgender singers are a very diverse group, we are often judged on the success and attitudes of our most visible members. For example, while one AMAB transgender singer may be willing to continue to play male characters, others may not be. Transgender singers should be allowed to decide for themselves which roles of which gender they are interested in auditioning for—and yet talent agents express concern about overstepping the director's vision by suggesting a trans or nonbinary singer for roles outside of their Fach. One question I often hear is, "Aren't you happy there is representation at all?", while the few trans/nonbinary roles that exist (like Pithio in Broadway's *Head Over Heels*) are cast inappropriately, without regard for the diversity and integrity of transgender bodies. These disparities, and the unsafe environment they create,

compelled me to close the Opera MODO's doors, and step away from opera entirely, despite dedicating over twenty-five years to the art form.

In retrospect, the disbelief that permeated my career underscored broader systemic issues concerning disability advocacy and awareness. The pervasive ableism embedded in social structures and professional environments perpetuates harmful narratives that delegitimize the experiences of individuals living with invisible illnesses. The barriers to understanding and acceptance are also frequently compounded by a lack of recognition of diverse identities. As a fat, trans/nonbinary disabled person, I have often felt that people I encountered in both the opera world and in medical settings could only handle one of my identities at a time. Medical professionals overlooked my chronic illness because I was also fat. Because my disability was invisible, they tended to hyperfocus on what they could see. The importance of inclusive and intersectional perspectives cannot be overstated in dismantling these harmful paradigms and fostering supportive environments. Learning from these harmful ways of treating individuals with chronic pain and invisible illnesses and rectifying these behaviors in teaching settings, such as academia or private studios, call for a multifaceted, empathetic approach.

To address these injustices and create a safer environment in the opera industry, here are some proactive measures that can be taken by those with the capacity to effect change:

Education and Awareness:

- Provide training and workshops for educators and instructors on recognizing and understanding invisible illnesses and chronic pain.
- Raise awareness about the challenges individuals living with these conditions face, and how to support them effectively.

Flexible Strategies for Teaching and Directing:

- Implement flexible teaching strategies that accommodate diverse needs.
- Allow for breaks during long rehearsals or lessons.
- Offer resources for managing pain and discomfort.
- Provide alternatives for physical activities that may be challenging.
    - » For stage directors: offer or have in mind multiple options for stage

directions.

    - » Get to know your singers so that you can tailor staging to their specific physical needs, avoiding the need for them to ask for accommodations in the first place.
    - » Allow performers autonomy and input in creating staging whenever possible.
- Whenever possible, cast operas before staging them in order to create performer-specific staging.
    - » Be flexible with pre-existing staging, to accommodate the needs of individual singers.

Communication

- Encourage open communication between teachers and students.
- Create a safe space for individuals to express their needs and limitations, and self-advocate, without fear of judgment.
- Believe the person who lives in the body when they share how their body works.
- Foster a culture of respect, empathy, and body autonomy.

Accommodation Policies

- Develop clear accommodation policies that address the specific needs of students with chronic pain or invisible illnesses.
- Work with students to create personalized plans that support their learning while considering their health challenges.

Support Resources

- Provide access to support resources such as counseling services, wellness programs, or disability services.
- Ensure that students have the necessary support systems in place to manage their conditions effectively.

Advocacy and Representation

- Advocate for inclusivity and representation of individuals with chronic pain and invisible illnesses in educational settings.
- Promote diverse voices and experiences to create a more inclusive and understanding environment.
- Prioritize integrity and authenticity when representing disability and gender identity onstage by casting performers of a similar lived experience to the character.

By promoting empathy, advocating for inclusive practices, and prioritizing the wellbeing of all performers, we can work together to create a more supportive and inclusive opera community. In addition, the imperative need for intimacy directors/choreographers on every production cannot be overstated, as they play a crucial role in advocating for the artists in the room who are not part of the production team. Intimacy directors/choreographers provide a safe space for performers—not only to navigate intimate scenes, but to ensure that boundaries are respected, and consent is prioritized. Their expertise helps in creating a supportive environment that fosters trust and communication, ultimately enhancing the well-being and professional experience of all artists involved in the production.

My experience navigating this industry underscores the pressing need for a shift in societal attitudes towards disability experiences. The dismissal of lived experiences, the perpetuation of harmful stereotypes, and the denial that often meets those with chronic pain only serve to heighten the already arduous struggles faced by individuals in similar positions. As we strive towards a more inclusive and empathetic society, it is imperative to center the voices of those navigating invisible illnesses and chronic pain, amplifying their narratives and validating their experiences. By fostering environments of understanding, support, and validation, we can collectively pave the way for a more compassionate and inclusive future for all individuals, irrespective of their health conditions or identities.

Glossary

chronic pain: The Centers for Disease Control define chronic pain as pain lasting more than three months. It can be connected to many medical issues including injuries, chronic illnesses, dementias, and mental health diagnoses; a 2016 estimate cited 50 million adults in the U.S. as experiencing chronic pain (Rikard et al. 2023).

invisible illness: an illness whose impact is not easily apparent to someone looking. Also referred to as non-visible, hidden, or non-apparent. Some disabled thinkers reject the term "invisible" as dependent on the medical model of disability, as centered on the experience of the observer rather than the person with the disability, and as exclusive of the variability of illnesses/disabilities that are sometimes visible and sometimes not (Détournement 2025). (See also: Noori, Stryker.)

medical gaslighting: dismissal and/or disparagement from the medical community. Shapiro and Hayburn (2024) identify it as a form of epistemic injustice (the denial or erasure of a patient's self-knowledge) and a mechanism for medical trauma. They offer this definition: "the psychological and institutional process that naturalizes the diminution of those who are testimonially disempowered within the context of the medical institution, and in their relationships with those who have authority to legitimize the patient's illness experience" (Shapiro and Hayburn 2024, n.p. *emphasis in original*). (See also: Ko, Stryker.)

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Author Biography

Danielle Wright (They/Xe), recently relocated to Cincinnati, Ohio, is a visionary in the opera world who founded Opera MODO, a pioneering organization based in Detroit for the past 10 years. Recognizing the need for a platform that nurtured emerging artists outside of institutional structures, with MODO, Danielle has led a revolution in opera performance, presenting captivating renditions of both classic and contemporary works since its establishment in 2011. An accomplished singer, Danielle has graced stages across the United States, London, and Berlin, exemplifying their commitment to maintaining an active stage career. Not content to simply perform, Danielle has championed the importance of artist-led initiatives by forging meaningful partnerships with prestigious institutions such as the Detroit Institute of the Arts and the Detroit Symphony Orchestra. Danielle Wright continues to shape the landscape of opera through their innovative approach to performance and dedication to supporting emerging artists in the industry. Although Opera MODO is no longer operational due to safety concerns for trans individuals in the opera medium, Danielle now channels their expertise and passion into their drag king persona, Juicci Björling.

V. Appendix and Index

Appendix

General

Appcompanist: https://www.appcompanist.com/

ArtsAbly: https://www.artsably.com/ (Works with performers and schools to make the arts accessible).

AXSMap: https://www.axsmap.com/

Braille Music Resources: https://nfb.org/resources/braille-resources/braille-music-resources

Braille music (UK): Learn About How to Read Music in Braille. Royal national Institute of Blind People. https://www.rnib.org.uk/living-with-sight-loss/education-and-learning/braille-tactile-codes/braille-music/

Braille Music Scores:

- Library of Congress: loc.gov/nls/braille-audio-reading-materials/music-materials
- MSLP: https://imslp.org/wiki/Category:Works_with_Braille_scores

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Opera and Disability: https://operaanddisability.com/

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Recording Artists and Music Professionals with Disabilities (RAMPD): https://rampd.org/

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Universal Design for Learning (UDL) Guidelines by CAST: https://udlguidelines.cast.org/

Disability-Affirmative Opera Companies:

Opera Praktikos (see Moomjy essay): https://www.operapraktikos.org/

Opera Mariposa (see Ko essay): https://operamariposa.com/

FormidAbility: https://www.formidability.org/

Accessible Theatre Companies that Include Musicals:

- Phamaly Theatre Company: https://phamaly.org/
- Barrier-Free Inclusive Theater Companies: https://www.barrierfreemd.com/inclusive-theater-companies.html
- CO/LAB Theater Group: https://www.colabtheatergroup.com/
- Unlabeled Theatre Company: https://unlabeledtheatre.org/

Disabled and d/Deaf Opera and Musical Theater Performers/ Performances

Ali Stroker

- https://www.youtube.com/watch?v=FxFS8okUqKk
- https://www.facebook.com/watch/?v=594823321864702

DeafWest Spring Awakening Tonys performance

- https://www.youtube.com/watch?v=CSagsMcak4Q

Ana Karneža. 2024. “Ana Karneza: 2024 Lenya Competition Winner.” https://www.youtube.com/watch?v=pDVKz_Od24s

Phamaly Theatre Company, Man of La Mancha (2011 production) https://www.youtube.com/watch?v=9CqV9YflDyo

Opera and Musical Theatre Shows with d/Deaf and Disability-Affirming Themes, and/or by d/Deaf or Disabled Creators

How to Dance in Ohio (Jacob Yandura, Rebekah Greer Melocik, 2022): https://howtodanceinohiomusical.com/

The Little Big Things (Nick Butcher, Tom Ling, Joe White, 2023): https://www.nationaltheatre.org.uk/whats-on/the-little-big-things-a-new-musical/

Thalidomide!! A Musical (Mat Fraser, 2005)

504: The Musical (Abbie Goldberg, Mason McDowell, 2023): https://www.504themusical.com/

VitaNova (Lis Sniderman, 2025): https://thegrievingproject.com/musical/

Wheels: An Original Musical (Jess Westman, 2023): https://jesswestman.com/wheels

The Black Drum [Deaf musical] (Adam Pottle, 2024): https://www.playwrightscanada.com/Books/T/The-Black-Drum

The Observatory (Stephen Bentley Klein, Sarah Grange and Mark Smith, 2014): https://aquietlifeopera.wordpress.com/

Breaking the Waves (Missy Mazzoli, 2016): https://www.operaphila.org/whats-on/on-stage-2016-2017/breaking-the-waves/

We Ask These Questions of Everybody (Toria Banks, Amber Skuse, 2021): https://www.youtube.com/watch?v=EOhQmLS3q44

Sensorium Ex (Paola Prestini and Brenda Shaughnessy, 2025): https://www.paolaprestini.com/compositions/sensorium-ex.

- See also: Lunden, Jeff. 2025. "Two Nonverbal Actors Star in a New Opera—With an Assist from AI." NPR.org. June 3. https://www.npr.org/2025/05/24/nx-s1-5405023/opera-nonverbal-ai-sensorium-ex

Caustic Effect: An ASL Opera (Monique Holt, Landon Krentz, 2022): https://reopera.ca/caustic-effect-an-asl-opera/

The Paradis Files (Errollyn Wallen, 2021): https://operaanddisability.com/the-paradis-files-opera-like-never-before/

Rough for Opera projects, focusing on supporting composers with disabilities: https://roughforopera.com/

Selected Interviews, Videos, and Podcasts with Disabled and d/Deaf Singers

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- https://podcasts.apple.com/us/podcast/the-disabled-diva/id1557539836

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