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Curious Tale  
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**Musician's Focal Dystonia:  
Strategies, Resources, and Hope**

**Creativity and Integrity: William Hebert**

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THE  
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# MUSICIAN'S FOCAL DYSTONIA:

*Strategies, Resources, and Hope*

by Joanna Cowan White

**In 2006, I performed an orchestral piece with loud articulated notes above the professional range of the flute. Two weeks later I had lip tremors during a recital and a gradual loss of ability to focus the lips, so I cancelled concerts. By the time I saw a neurologist, the problem was gone and did not return for five years.**

**T**hen, in the summer of 2012, I learned a beatbox piece, and two weeks later, the tremors were back. Beatboxing does not cause focal dystonia. But it is strenuous on the lips, I'd suffered a previous lip injury, I practiced this new technique vigorously for many days, and I was under stress from other medical challenges—and I believe all these factors conspired in the return of the tremors.

This time, the tremors did not go away. The next month I performed at the NFA convention in Las Vegas. I was so worried about lip tremors that my fingers started shaking as well. When I blew into the flute after that day, even in the practice room, my lips and fingers quivered. Actually, my fingers shook any time I held them over the flute keys.

I went immediately to the Cleveland Clinic, but it was another 18 months before I received the diagnosis that had become increasingly obvious to me and set out to find people who could tell me what to do about it.

### **Focal Dystonia**

Definitions of the condition vary—even the name is a misnomer since the condition is in the brain and can manifest anywhere—but most researchers describe focal dystonia as a task-specific movement disorder, with the majority of current researchers listing it as a neurological condition. “Dystonia” means “poor tone” or “tension.” Co-contraction of opposing muscles is usually in the description, but pain is not a common element.

Musicians' focal dystonia, unlike generalized dystonia, manifests in a specific part of the body, although occasionally in more than one part and sometimes later in a different part. While we hear about flutists with hand or embouchure dystonia, it is possible for the condition to appear in the jaw, lips, tongue, larynx, breathing muscles, and elsewhere. Focal dystonia strikes experienced musicians and affects more males than females.<sup>1</sup> Although people are often diagnosed in their 30s and 40s, people over 50 can get it, as can college-age musicians. About one percent of musicians have focal dystonia.<sup>2</sup>

Finger symptoms include involuntary abnormal movements, curling or flexing fingers, tremor, and loss of control; embouchure symptoms include rapid tremors, air leaks, difficulty focusing, involuntary muscle contractions, or lip-lock. Some people have symptoms in one hand and later in another; in some, symptoms move from lips to jaw, and some people who make physical changes to avoid dystonia develop the disorder in a new way. Sometimes similar activities such as drinking out of a glass (embouchure dystonia) or typing (hand dystonia) produce symptoms.

Often dystonia starts insidiously with the vague feeling that something is not quite right or the tongue is heavy and slow. There

might be a slight air leak, or the fingers might not cooperate. Some musicians have trouble in a certain register of the instrument, with tonguing, or in certain kinds of technical passages.

Many initially blame themselves, practice harder, and find the problem only gets worse. Some can barely make a sound or play a passage. Others can mask the symptoms, but only with a sense that nothing “feels” right and that they might not make it through the performance. Some mention a sudden inability to control their fingers or their vibrato. Some feel a need to manually shift the embouchure from note to note.

“When I bring my instrument to my face, it feels foreign, like someone having to write with their non-dominant hand,” said one person in an interview.<sup>3</sup>

## *The Stigma*

Compounding the challenge of focal dystonia is the stigma surrounding it. Until recently, there has been little information about focal dystonia prognosis, so performers and teachers, understandably, keep quiet. When those who deal with this confusing and devastating condition are without support, hopelessness sets in.

### **How and Why**

The cause of musician's focal dystonia is still unclear. Possible triggers are a change in playing technique, a change to a new instrument, more playing time, high-pressure concerts, life stressors or trauma, previous nerve entrapment, faulty technique, lack of sleep, injury, repetitive fine motions, overuse injury, and high anxiety or perfectionism, and researchers increasingly think genetics play a part. A mysterious confluence of biological, physiological, psychological, and social factors seems to cause the brain to change.<sup>4,5</sup> Researcher Joachin Farias believes that a “hypersensitive response of the nervous system” to stressful or traumatic events causes “cortical shock,” disrupting neural circuits.<sup>6</sup>

Anyone can develop focal dystonia—it manifests beyond music as writer's cramp, a club-swinging problem golfers refer to as the “yips,” and in sports with repetitive motions like tennis and baseball. But musicians make faster, more highly skilled repetitive motions than most people, which highly develops parts of the brain, and they also must play with near perfection and thus are more prone to focal dystonia than the general population.<sup>7</sup> Some believe a combination of factors stimulates a negative neuroplasticity: “what fires together gets wired together” in an unfortunate way. Brain function problems in focal dystonia in-



Playing another instrument, such as a recorder, is one treatment approach.

clude alteration of sensorimotor representation, faulty inhibition of muscle activity, faulty perception of sensory information with reduced ability to process it, and impaired sensorimotor integration. Researchers are not always clear which of these cause and which are a result of dystonia. New research reveals that many parts of the brain are involved.<sup>8</sup>

The somatosensory cortex of the brain contains a map of different areas in the body. The five fingers on one hand, for example, have distinct corresponding locations in the brain. With focal dystonia, these brain maps get confused, overlapped, or blurred.<sup>9</sup> Hand dystonia patients show overlap or blurring of finger representation, while embouchure dystonia patients show overlap of lip and tongue representation.<sup>10</sup> Brains in people with focal dystonia might have an abnormal absence of the inhibition that stops opposing muscles from contracting at the same time, causing unwanted output from some of them. Researcher Joachin Farias believes that in dystonia, certain muscles can become hypotonic, causing the opposing muscles to become overactive in compensation,<sup>11</sup> in turn resulting in muscle tone asymmetry.<sup>12</sup> He also points out that dystonia can cause deficits in cognition, perception, or emotion regulation.<sup>13</sup>

## “Not being able to play seemed to have suddenly cut off my most profound way of communicating.”

—Andrée Martin (from her blog)

With abnormal sensorimotor integration in focal dystonia, perception can be inaccurate; the brain receives confusing information, or it processes sensory information incorrectly, so a person might have trouble distinguishing stimuli, making normal control of motions impossible<sup>14</sup> Some doctors and physical therapists believe focal dystonia has at least a partially similar brain process to what goes on in other conditions such as chronic pain,<sup>15</sup> phantom limb pain,<sup>16</sup> or “mind/body syndrome.” These all include remembrance of past symptoms, which triggers the brain to produce a physiologic reaction that sparks fear, setting up a cycle that is difficult to interrupt.

### Head and Heart

Although most now discuss focal dystonia as a neurological rather than psychological condition, as it was thought to be a century ago, some do believe that psychology is at least part of its root cause, and whatever its etiology, focal dystonia clearly has psychological components. Sometimes it begins after a stressful life event or during a stressful period. If you have it, getting up in front of an audience when you are no longer certain of controlling what comes out can trigger extraordinary performance anxiety, even for those who did not struggle with it before. Some theorize a connection of focal dystonia to the limbic system<sup>17</sup> or to emotional expression.<sup>18</sup>

Some who develop dystonia must change careers, and while losing a skill or job can adversely affect anyone, performers tend to have identities closely tied to being a musician. Adding to their sense of isolation, musicians with focal dystonia might feel not only that people do not understand what they are going through, but also that other musicians are afraid to hear about their struggles. And even when others are willing to listen, it is difficult to explain a problem that is not always visible or tangible.

Despite the general secrecy surrounding focal dystonia, some high-profile musicians have spoken out about their experiences, among them pianists Gary Graffman and Leon Fleischer, who discussed it as far back as the 1980s; guitarists Leona Boyd and David Leisner; violinist Peter Ondijan; Chicago Symphony oboist Alex Klein; former New York Philharmonic principal trumpet player Phil Smith and trumpet player Jon Gorrie; trombonists David Vining and Jan Kagarice; and guitarist Billy McLaughlin. Vining, in his book *Notes of Hope*, compiled stories from musicians dealing with challenges including focal dystonia.<sup>19</sup>

Flutists have written or have been featured in articles and books, among them Ernestine Whitman,<sup>20</sup> Roger Martin,<sup>21</sup> and Andrée Martin<sup>22</sup> (*The Flutist Quarterly*); Alison Young<sup>23</sup> (the *Minneapolis Star Tribune*); John Wion<sup>24</sup> (*Wood, Silver, and Gold*); David Greenhalgh<sup>25</sup> (*Pan*); Andrea Brachfeld<sup>26</sup> (*The Flute View* and *The Flute Journal*); Mark Dannenbring<sup>27</sup> (*The Flute View*); ; Michael Parloff<sup>28</sup> (*Musicians' Health*); and Anna Détari<sup>29</sup> (online). Susan Fain, in her dissertation, interviewed flutists with different performance challenges, including dystonia.<sup>30</sup>

Musician's focal dystonia, a once-taboo topic, is starting to appear on the Internet. The closed membership Facebook group "Musicians with Dystonia" has more than 600 members. Focal dystonia websites and blogs include those by flutists Andrée Martin and Anna Détari, but all musicians' stories are valuable.

Music is a language, and losing that voice can bring frustration, depression, and sadness. Having focal dystonia, akin to forgetting how to ride a bicycle,<sup>31</sup> can be overwhelming. It makes performing effortlessly a past dream, makes demonstrating while teaching difficult, and can change lives. Despite the anguish, some people learn and grow in their search for answers, becoming better teachers or being catalyzed into closer examination of their lives.

Researchers are pursuing promising avenues but have not yet found magic. Different approaches work or fail for different people; it takes extraordinary persistence and patience to persevere, and setbacks are inevitable. Part of the problem is that performing demands a high level of accuracy, so partial success makes it hard to maintain a career. Some might choose to limit their recovery efforts at some point. But there are resources.

And there is now more hope, the most spectacular example being Klein's June 2016 winning of the Chicago Symphony principal oboist position despite a 12-year hiatus from that same position due to focal dystonia. Trumpeter Philip Smith urges people not to give up despite the "ugliness" of focal dystonia. He believes that "you can put Humpty Dumpty back together."<sup>32</sup> Researchers too, long known for saying focal dystonia has no cure, are beginning to be more optimistic about potential prevention and/or treatment.

An extensive annotated bibliography of focal dystonia research has been posted in *FQ Plus* in connection with this article. Researchers are finding more ways to study the body—and are more aware of the need for more accurate ways to measure focal dystonia and its effects. Recent examples include fMRI imaging<sup>33, 34</sup> and 3D motion capture,<sup>35</sup> which show our bodies in motion while playing an instrument—inside *and* out—and even provide numerical data. These developments promise diagnostic and pedagogical advancement.

## Strategies and Treatments

Today, there are musicians and researchers who believe focal dystonia can be overcome. Most use what Vining calls a "cocktail" approach of multiple strategies to return to ease of playing.<sup>36</sup> Working with a professional interdisciplinary team is ideal.<sup>37</sup> Some benefit from an examination of technique, a heightening of kinesthetic awareness, or an improvement in ergonomics or in body balance/posture. Some find it easier to work when the nervous system is calmed or when body tissues are freed up. Some try medical intervention, behavioral approaches, or addressing sensory perception deficits; some learn about muscles, and others tackle emotional or psychological aspects. A few report recovery time in months, but it usually takes years.

The bottom line: Things that help the mind or body feel better can complement treatments that address the root of the problem.

**Brain retraining**—neuroplasticity—is currently popular, but there are many different ways of doing this, partly because everyone's brain is different. The main concept is that once old neural pathways become corrupted, new pathways must be used to relearn what we once knew.

## Will a Break Help?

Taking time off from playing does not make focal dystonia go away, but some people are unable to perform much until rehabilitation produces results. As to whether or not those who can play well enough to hide symptoms would be better served by suspending performance for a while, there is no consensus. It is a personal decision, one that is difficult to answer and that indeed might have different answers at different times.

David Vining famously stopped all regular playing while he retrained his brain for ten thousand hours; he returned to and maintains a performing and teaching career. Joachin Farias told me he has had musicians do well when they keep performing in their ensembles. If a musician sounds good to others and is making progress, and if she can manage the anxiety of playing with so much uncertainty, it is possible to recover while in school or while maintaining a career, but it is admittedly difficult.  
—JCW

**Botox injections** were among the first formal efforts at treatment, tried as early as the 1980s with hand dystonia. Studies report mixed results, but some musicians have benefited. It can take time to find the correct injection location and dosage, and benefits wear off after a few months. Some experience side effects or do not find it helpful, and the treatment can be expensive. Researchers seem to agree that Botox, difficult to administer for embouchure dystonia, does not prove statistically useful for this form of dystonia anyway. A temporary solution for those it helps, Botox does not tackle the root of focal dystonia's brain dysfunction.

**Oral medications**, as might be expected in the medical world, were also early approaches. Some musicians have used beta blockers, but while this helps some, it does not address the dystonia itself and, as with any drug, it has side effects. Trihexypenidyl, an anticholinergic drug, blocks a certain neurotransmitter in the brain. There is report of benefit but not with embouchure dystonia, and some musicians object to side effects, one of which can be dry mouth.<sup>38</sup> A few other drugs have been tried. Overall, drugs target symptoms rather than the cause of focal dystonia.

**Physical therapy**, some researchers believe, is essential for dystonia rehabilitation.<sup>39</sup> In addition to strengthening exercises, myofascial release, and massage, physical therapists have used splinting, brain retraining, and imagery.

**Altering stimuli**, it has long been known, can "trick" the brain into thinking it is doing something new instead of carrying out the old motion that triggers a dystonic reaction—using a broomstick instead of a flute to practice fingering, for example. Some



Work with muscles and kinesthetic awareness has helped some, including the author.

## My Approach

Diagnosed with focal dystonia, I learned I was “lucky” because my symptoms did not progress to the sharper muscle contractions some experience, so I could hide the difficulty. But with my brain signals corrupted and the resulting lack of control over my muscles, playing was fraught with fear, exacerbating the symptoms in a hard-to-break cycle.

The 18 months before my diagnosis were horrible, and the first year after diagnosis was still scary until I began to have success with “brain retraining.” I kept playing, but with less confidence. In my chamber groups, my colleagues let me select repertoire I could manage, but I stopped playing solo repertoire. I demonstrated less in lessons, although it was some time before I told my students why.

Finally, after the tides turned, my playing started to improve until I reached the point where making music was more natural and satisfying and I knew I could keep going.

The complete list of what I tried is many pages long. Four sessions (four days in a row) with Joachin Farias at the University of Toronto, and one later follow-up, marked my turning point. Not only did Farias explain focal dystonia to me in a way that made sense, but his biomechanical and brain rehabilitation expertise, in addition to his being a flutist himself, enabled him to suggest very specific finger and facial exercises and brain retraining methods.

Farias showed me how to use new brain connections to relearn what I once knew. I could play scales right away, for the first time in three years, and technical passages

try a different instrument (like a recorder) to blow without the familiar sensations that trigger dystonic motions.

**Changing brain connections** has been helpful to some: doing something distracting while playing to make the brain forget it is doing the familiar task that has become paired with dystonic motion. Fostering new brain connections—putting away familiar music for several months, choosing 100 new “licks” to practice in small fast groups (global motion), switching up the order every day, even going to the park to navigate with a map or playing games or cards to help clear up the brain confusion—might help some.<sup>40</sup>

**Sensory training**, for a disorder that features an abnormality of sensory discrimination, has been tried to facilitate normal sensory processing and perception. People have been asked to feel items in a tray of sand, to match objects, to “read” dominos, or even to read braille.<sup>41</sup>

**Sensory motor retuning** involves training while non-dystonic fingers are splinted, helping the brain to unlearn the confusion of hand dystonia by restoring organization in the sensorimotor cortex.<sup>42</sup> At the Institut d’Art, the team draws upon this approach, among others, to treat patients<sup>43</sup>.

**Instrument or technique modifications** have helped some musicians. Modifications such as using different headjoints, lighter

comfortably again after a few months of practicing in the new “global motion” way he described and by choosing 100 new “licks” to practice in small fast-note groupings, switching up the order every day.

Neurologist Eckart Altenmüller advised, after I asked about flutist’s embouchure dystonia retraining, that some have had success with facial muscle work. Farias worked with me on this, and I also worked with Keith Underwood, who teaches about specific facial and pharyngeal muscles.<sup>49</sup> The lessons with Underwood were useful both in confirming the track I was on and in offering new ideas to try.

I was lucky to have an astute physical therapist (for an unrelated shoulder issue); she knew of physical therapist Nancy Byl’s research in treating focal dystonia. She tried myofascial release (neck and face) and somatosensory training and taught me facial muscle exercises. Following a conference, she tried Graded Motor Imagery, working with me on it for a year in a case report, and will eventually write scientifically about it.<sup>16</sup> Graded Motor Imagery trains brain connections using right/left discrimination training, mirror work, listening, imagery, and video-watching—which helped me regain comfort performing and gave me guidance with specific retraining.

I also found invaluable the help of an outstanding psychotherapist, first in dealing with this identity-threatening condition, and then, once I learned to play in a new way, for assistance working through my heightened levels of performance anxiety. Since focal dystonia symptoms evoke

or upright flutes, extended or rebuilt keys, and thumb ports or support systems to hold instruments can solve ergonomic problems. Re-examining playing methods or doing something unconventional to avoid triggers, such as using an unusual fingering or different finger to play a note, could help to foster the forging of new brain pathways. Some musicians work with flutemakers (such as Sandy Drelinger) to have flutes or headjoints built that address individual problems.

**Kinesthetic awareness** work is another approach. Certified Alexander Technique teachers have assisted people with efficient body use for decades. The offshoot of Alexander known as Body Mapping takes this a step further by educating people about the difference between their inner “map” of the body and how it actually aligns and functions. Several musicians in Vining’s *Notes of Hope* who successfully navigated performance challenges worked with these practitioners to improve their “body maps.”<sup>44</sup> The Feldenkrais Method, also about awareness and movement, has helped some. Stacey Pelinka wrote a chapter about it for the NFA-published book, *The Flutist’s Handbook: A Pedagogy Anthology, Vol. 2*.<sup>45</sup> Andrée Martin cited Feldenkrais as one of the things that led to greater awareness for her,<sup>46</sup> and Vining speaks of his success with this method, noting the value of acquiring a global awareness of how we use our whole bodies to play.<sup>47</sup> Many other approaches to body work and body understanding are available. Music teachers study optimum ways to play, and schools of thought center around particular pedagogical methods.



The drawings above and at left are from *The Artist’s Complete Guide to Facial Expression*.

fear of failure, and fear exacerbates symptoms, therapy was essential to my decision to continue performing. It gave me perspective, self-knowledge, understanding of the mind/body connection, and encouragement to persevere, and helped me gather the courage to share my experience.

Critical to my success, I worked on my own in countless ways—as do most people with this condition. The process of figuring out what works, unbelievably time consuming and discouraging, required more patience than I knew I had.

In one of my favorite discoveries, I found approaches that enabled me to enjoy playing again: playing low- and middle-register melodies borrowed from colleagues on other instruments and from music of other cultures; focusing on the expressive capabilities of music; and avoiding the flute music that caused me such distress. I even wrote a borrowed melodies article for this magazine.

I also tried consulting doctors, seeking out musicians with focal dystonia for advice, playing the recorder and a different flute, beta blockers, finger exercises, mirror and mirror-box work, video recording, biofeedback, visiting a vocal coach, speech therapy to relax the tongue, meditation, yoga, and lots more. Like most, I found many things a bit helpful (except beta blockers, which helped not at all).

It was mainly the brain retraining—switching things up for new neural connections, graded motor imagery, global motion practicing, and dealing with dystonia-related anxiety—that brought positive change and cleared up some of the cognitive fuzziness that can be a part of focal dystonia.

But muscle knowledge (I play with a more lifted face and more engaged facial muscles), kinesthetic awareness, finger and facial exercises, relaxation techniques, and remembering why I play music in the first place all helped.

I received input from, among others, Jan Kagarice, who had me focus on where the air goes, and who got me hopeful; David Vining, who suggested that I “switch up” the tonguing slightly to avoid the learned dystonic trigger; Helen Spielman, who was empathetic; Barbara Conable, before I had focal dystonia; and Lea Pearson, who encouraged me to work on balance and grounding. Tess Miller and Leone Buyse discussed general flute concepts with me.

Incidental—but also important—have been my explorations in creative writing. Just before my focal dystonia emerged, I started studying and writing poetry, unaware that this development of a new art and voice would be critical while I dealt with the threatened loss of another.

Early in my journey, trumpet colleague Neil Mueller, who had successfully found a way around focal dystonia, shared his story with me. He admitted how difficult it is to go through this but offered hope for future ease of playing. This was invaluable.

Now that I have newly found that ease of playing for myself, I try to keep fears from revving up the mind-body cycle of negative interactions that make musician’s focal dystonia so formidable. I remind myself that I have the strength to weather the ups and downs.

—Joanna Cowan White



Practice 100 short new “licks” with note grouping.

**Muscle, breath, and movement work** are also used in treatments. A diagnosis of overactive vs. underactive muscles can lead to movement-based treatments.<sup>48</sup> Having a rehabilitation coach, doing exercises rhythmically to restore internal timing, and limiting excess muscle tension can be helpful for some, as can consulting someone who understands arm muscles such as a physical therapist or facial muscles such as a flute teacher.<sup>49</sup> Some musicians with embouchure dystonia learn from blowing without the instrument, even working with straws and coffee stirrers. “Moving air,” freeing up the breath to help with focal dystonia, and taking advantage of meditative breathing techniques<sup>50</sup> have been suggested approaches. Joachin Farias, in his new book, *Limitless*, has proposed a whole paradigm of dystonia in which movement therapies, relying on neuroplasticity, can effect rehabilitation.<sup>51</sup>

**Tempo and note-grouping work** address practice methods that turn sideways some familiar pedagogical approaches. A “slow down” method—working with a tempo so slow that it does not trigger dystonic reactions—has been tried in treatments taking from one to six years.<sup>52</sup> In a “global motion” approach, someone with dystonia tries playing a short passage she knows in one quick motion (like the fluid swing of a tennis racquet) instead of breaking it down into discreet motions, thus using alternate brain pathways.<sup>53</sup> While the pedagogical literature abounds with discussions of note grouping, global motion practicing is about taking a small-note group your brain has learned and playing it in one fell swoop. This can help *anyone* learn to play faster.

**Basic biofeedback** from mirrors and audio and video recording devices, long used in music study, can be invaluable to our efforts to perceive and/or change any facet of playing. The use of mirror boxes in treating hand focal dystonia patients draws on phantom limb pain research by V. S. Ramachandran, in which

a person hides the affected hand inside the mirror box, while seeing (in the mirror) the moving image of the unaffected hand, tricking the brain into believing that hand is healthy.<sup>54</sup> People have tried more complex forms of biofeedback, such as HeartMath, to monitor muscle, heart, or brain activity to teach people how to perceive what a body is doing and to change it or to calm it down.<sup>55</sup> Methods like fMRI and 3D motion capture show scientists what is going on in our bodies while we play and could eventually help us to change dystonic patterns.

**Visualization and imagery** are already used by musicians (and athletes), utilizing resources such as the work of Don Greene, Noa Kageyama, Jon Gorrie, and many others. Watching other performers can help those with focal dystonia because our brains have mirror neurons that fire when we observe motion in another person, activating a similar part of the brain as when we make the same motion. Graded Motor Imagery,<sup>56</sup> a method devised by the Neuro Orthopaedic Institute (Australasia) for treating pain and movement problems, is one possible facet of brain retraining for focal dystonia.<sup>57</sup> Since the brain draws upon past experience of pain—or, in this case, dystonic movements—to recreate symptoms, we can break the chronic cycle by using this rehabilitation system.

**Psychotherapy** can provide much-needed support for a disorder that can profoundly affect the core of musicians’ identities; in fact, many who write or tell their coping stories list psychotherapy as a key ingredient. One researcher cautions that it is difficult to recover from focal dystonia until underlying depression is addressed.<sup>58</sup> Psychotherapy can also be useful in learning to manage heightened performance anxiety and the ups and downs of progress that many experience. Since some think focal dystonia has at least partly a psychological etiology, therapy could theoretically be helpful at the root level. But in any case, since focal dystonia symptoms create fear of being unable to perform, which then can trigger more symptoms, therapy can help us interrupt the cycle. Although no controlled studies for effectiveness have yet been conducted, anecdotal evidence is strong that psychotherapy helps in multiple ways. Some musicians choose to tackle performance issues by drawing on the assistance of **performance anxiety** coaches, psychologists like Noa Kageyama, the “Bullet Proof Musician,” “centering” trainer Don Green, and others. Flutists Helen Spielman and Amy Likar each offer online performance anxiety resources.<sup>59</sup> **Cognitive approaches** can help redirect thinking in the face of adversity, because our thoughts about ourselves can spiral down in focal dystonia, feeding the fear of failure and increasing symptoms.

**Other creative and mind-body** approaches propose sideways steps from your usual musical life: integrating dance,<sup>60</sup> practicing folk or world music instead of classical music, or giving improvising a try. Holistic approaches address general health concerns such as lack of sleep, nutrition,<sup>61</sup> and regular physical exercise.<sup>62</sup> The musicians I interviewed also derive help from other resources that emphasize life philosophy and spirituality. Since the physical and psychological are linked in focal dystonia, considering the purpose of music and where we fit into our world helps some with dystonia to direct the focus away from performance fears that heighten dystonia symptoms. Meditation, currently lauded and scientifically proven to change the brain, helps some people

focus and calms the relentless negativity of focal dystonia. Some report benefit from hypnosis. People have also tried yoga, acupuncture, vocal coaching, speech therapy, massage therapy, and martial arts. Many report that learning what triggers their own dystonic symptoms and also what keeps symptoms at bay can be a painstaking but invaluable process.

**Transcranial magnetic stimulation**, a procedure in which magnetic fields stimulate the brain, is used for treatment of pain and depression and has been tried both in diagnosis and treatment of focal dystonia. Case studies document success with it in alleviating musician's dystonia symptoms.<sup>63</sup> It may have promise, but scientists seem to agree it needs more testing for risks.<sup>64</sup>

**Surgery with risks, such as deep brain stimulation**<sup>65</sup> is almost never discussed and has been called “controversial”<sup>66</sup> and “obsolete,”<sup>67</sup> even more so now that noninvasive solutions hold such promise and newer theories of etiology render it unnecessary.<sup>68</sup>

**Individual coaching** is available from, among others, Anna Détari, Joachin Fabra, Joachin Farias, John Gorrie, Jan Kagarice, David Leisner, David Vining, and the Institute de l'Art. (See related bibliography in *FQ Plus* for more information.)

## Prevention

Focal dystonia does not appear suddenly because a musician has done something wrong. Nevertheless, the topic of prevention is being discussed. Advice from educator Gerald Klickstein applies to avoiding musical injuries in general: Never push through fatigue or injury; increase playing time in stages; acclimate gradually to any unfamiliar instrument; initiate technical changes in increments; curb new hand-intensive or repetitive tasks; commit to healthy practice habits; and adopt good use.<sup>69</sup> Pedagogical advice regarding focal dystonia includes teaching technique in which no extraneous energy or motion is expended in playing.<sup>70</sup> Researchers cite practicing with breaks, utilizing mental practice, switching up kinds of motion, avoiding repetitive motion, warming-up and cooling down, and avoiding overuse.<sup>71</sup>

Other recommendations are using a multi-disciplinary wellness approach to support music students;<sup>72</sup> keeping instruments in perfect playing condition to minimize muscle strain;<sup>73</sup> varying speed, force, and the nature of motor tasks;<sup>74</sup> and moving away from our highly perfectionist classical music culture toward a more positive, artistic, and holistic approach.<sup>75</sup> Efforts in Germany to introduce programs emphasizing the latter have cut down on the rates of medical issues in musicians, including focal dystonia.<sup>76</sup>

In the U.S., music schools have increased the performance health information available to students, integrating applicable courses into the curriculum, inviting guest speakers to discuss musician's health, and making health practitioners available to student musicians. The Performing Arts Medicine Association, formed in 1989, later worked with the National Association of Schools of Music to make musician's health information available to all universities, and its journal, *Medical Problems of Performing Artists*, has featured many articles on musician's focal dystonia.

Excellent resources on the benefits of a healthy approach to music study include Janet Horvath's *Playing Less Hurt*<sup>77</sup> and Gerald Klickstein's *The Musician's Way*,<sup>78</sup> which promote warm-ups, give healthy approaches to playing and learning, and advise us



Mirror boxes can help with finger exercises and effectively retrain the brain by tricking it.

**“Music is like drinking water, breathing air, eating food. It is the center of everything and when it is taken away, it is confusing, rough, difficult.”**  
—Anon.

to consider the communicative aspect of music. Many more resources about healthful approaches are listed in *FQ Plus*.

## Early Symptoms

It is critical that musicians and teachers keep focal dystonia on the radar. Fortunately, the vast majority will not get focal dystonia, but people should know the signs so they can avoid the common pattern of misreading early symptoms, practicing harder, and thus cementing in faulty brain connections.

Farias, in his book, *Intertwined*, describes three stages of focal dystonia: a change in our perception of our bodies and movements followed by developments of fast tremors and, finally, muscle spasms.<sup>79</sup> A developing pervasive feeling of lack of control while playing that does not go away—especially in music you have always been able to play easily with flow—is worth keeping an eye on. A new feeling that your instrument is foreign or that something is not quite right or the tongue no longer feels facile are common early sensations with focal dystonia.

Tremors in muscles that are just learning to do a new task might simply signal muscle weariness—but the arrival of

## Selected Annotated Bibliography

An extensive annotated bibliography of focal dystonia information, including references from this article, are available at *FQ Plus*. These resources are some of the most current and scholarly, and the most relevant to flutists. Below are offerings to get you started.

Research articles, dissertations, books, and more are available by Eckart Altenmüller, Katherine Butler, Nancy Byl, Susan Fain, Joachin Farias, Seth David Fletcher, Steven Frucht, Peter Iltis, Hans-Christian Jabusch, Richard Lederman, David Leisner, Karen Rosenkranz, and many more.

Information incorporating personal stories include articles and websites by Katie Berglof, Federico Bitti, Andrea Brachfield, Annie Corrigan, Mark Dannenbring, Anna Détari, Janine Gaboury-Sly, Ellen Goldensohn, Jon Gorrie, David Greenhalgh, Peter Iltis, Alex Klein, Andrée Martin, Roger Martin, James R. Oestreich, David Vining, Ernestine Whitman, John Wion, and many more.

Focal dystonia coaches include Andover Educators, Anna Détart, Joachin Fabra, Joachin Farias, John Gorrie, Jan Kagarice, David Leisner, David Vining, and Institute de l'Art.

Neuroplasticity and the brain is discussed in books by Norman Doidge, Joachin Farias, Les Fehmi and Jim Robbins, Richard Restak, Oliver Sacks, and Jeffrey Schwartz and Sharon Begley.

General resources on musicians' physical, mental, and spiritual wellness and injury prevention are available by Barbara Conable, Moshe Feldenkrais, Jon Gorrie, Don Greene, Janet Horvath, Noa Kageyama, Katherine Kemler, Gerald Klickstein, Amy Likar, Eric Maisel, Tess Miller, Judy Palac, Lea Pearson, Stacey Pelinka, Helen Spielman, Keith Underwood, Kenny Werner, and many more.

persistent tremors in someone who has always played without them could be a warning, as could trouble with vibrato. Of course, tremors and incoordination are hallmarks of many neurological conditions, so it is critical to see a doctor such as a neurologist who can rule out other conditions.

Muscle contractions that interfere with movement and uncooperative fingers or lips bear checking into. In the experience of many people I have talked to, doctors—even movement disorder specialists—are not always well versed in musician's focal dystonia, but awareness of the condition is more common than it was a decade ago. Even so, it sometimes takes more than one medical visit for a diagnosis, especially if the symptoms are mild and difficult to observe. There is no definitive test for focal dystonia.

Musician's focal dystonia is a devastating condition, but there is hope for recovery, even complete. (See "My Approach.") Each

## "I don't listen to music anymore."

—Anon.

person must forge her own path, although no path is easy or straight. We musicians, who are accustomed to working toward a clear goal, get frustrated by focal dystonia, which does not have clear-cut steps to follow—but we can draw upon our strength at working for the long term.

In the meantime, sharing information and having empathy toward musicians who deal with performance challenges can help us all. While musicians and researchers work on the focal dystonia puzzle, we can each contribute by keeping ourselves informed about musician's wellness and by fostering a holistic and healthy approach to the learning, performing, and teaching of music.

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