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Music and Medicine

Living Both Music and Medicine
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song even if I can't, since many were popular when we were both young.

I really can't claim any special "talent" for this, for the following reasons: First of all, it seems to be getting stronger as I become older, and the songs are often associated with joyful times and experiences from long ago. Second, other friends have mentioned that they experience the same thing, and for them too, it appears to develop with age.

And third, it seems a lot like other forms of recall that have been reported by many others—the POWs who, attempting to keep their minds sharp, would enable themselves to remember the entire composition and seating position of their grade school classes, or the adults who can paint entire, elaborate street scenes that they have not seen since childhood. Dr. Oliver Sacks has written about this. It's simply that music is very meaningful to me and has always been an important complement and background to my medical practice; so it's natural that it would be the "language" of my recall.

I would encourage others to probe and experiment as I have, whether with music or with some other form of experience. I'm sure you'll find a treasury of nearly forgotten memories awaiting you.

Dr. Herb Peterson (pictured top left) is a Clinical Professor of Psychiatry Emeritus at UCSF.

Matthew L. Springer, PhD

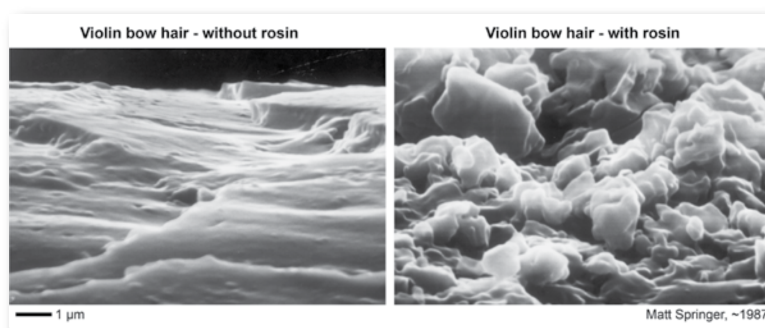
I'm not sure how loudly I should say this, but I suspect that I might have finished my PhD thesis at Stanford a couple of weeks earlier had I not been commuting to Oakland in the evenings to fiddle in the pit orchestra for a musical theater production of *Big River*. I even had a role on stage as a fiddler. I would write parts of my thesis and do experiments at lab during the day, then drive up to Oakland to change and put on the stage makeup, play the show, wash up, and drive back to Stanford to continue writing into the middle of the night on the"lab computer" (which gives you a hint about how long ago this was).

This kind of double life has been a frequent occurrence throughout my years as a scientist, although typically not involving as much mileage. As a UCSF professor, I unfortunately do not have time these days to participate in long-term theater engagements, but I do still manage to play in the Peninsula Symphony and have published several musical arrangements, as well as a couple of articles for *Strings* Magazine. While I've been tempted occasionally to add these arrangements and articles to my CV, the medical and musical aspects of my life intertwine but usually don't merge. To describe it in twenty-first century terms, my home page has one link to my lab's website and another link to my music website, but you can't move directly from one site to the other.

In what way, then, has my music had an impact on my scientific life? Well, it has done so on several levels. On one level, playing music alone and in groups, and arranging or composing music, enriches my life in general. That may sound like a cliché, but as I discovered during more than half a year in 2001–2002, when I had to completely stop playing music due to a physical problem, life devoid of musical involvement went from being in color to being in black and white. On a level more specific to science, it's important for clinicians to realize that while they can watch people get better in real time, the lab scientist can work on a project for a whole year without necessarily seeing tangible evidence of progress, even if progress is indeed occurring. With music, you put in the effort, you see a result; whether we are referring to practicing a difficult passage, learning how to improve tone, or watching ideas from your head and beyond accumulate on paper in a composition. For me, this aspect has been a great tonic for the frustration that is so frequently dominant in scientific research.

But the most important and direct impact that music has had on my scientific life is that it provides the balance that so many people lack. Science is cerebral; it is thinking, questioning, experimenting, doubting, proving, with much less room for "feeling" than one might expect from listening to Captain Kirk explain to Spock about the role of human intuition in decision making. It is this analytical component of our lives that benefits from a scientific career, but we are more than our cerebrums. I tell people in my lab to take breaks from sectioning tissue with a cryostat to avoid straining their back, take breaks from the microscope to avoid straining their eyes; and music allows one to avoid straining one's mind and allows the more innate part of one's humanity to take over for a while.

On rare occasions, I have allowed these two aspects of my life to collide, usually with surreal and unique consequences. Take for example "The Myoblast Song," which I wrote about my research during my postdoctoral years and which has been performed at more than a few conferences and seminars; or the couple of scanning electron micrographs that I took of my violin bow hair while I was taking hundreds of other pictures of fungal spores back in graduate school (see figure). But in general, I do manage to switch gears, temporarily forgetting about frustrating experiments and grant proposals and instead

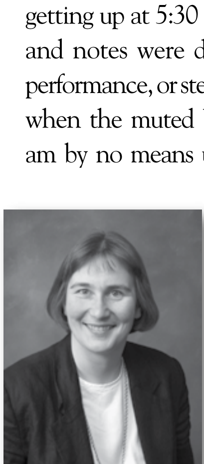


focusing entirely on playing the music for a while. Sometimes scales are exercises to be practiced, and other times they are used to weigh chemicals, but either way they function as a balance.

Matthew L. Springer (above) is an Assistant Professor of Medicine in the UCSF Division of Cardiology and a violinist/percussionist in the Peninsula Symphony. "The Myoblast Song" can be seen and heard at http://homepage.mac.com/matthewlspringer/MyoblastSongPointer.html.

Kirsten E. Fleischmann, MD, MPH, FACC

I am a musician. I'm also a mother, physician, wife, researcher, and teacher—but my involvement with music predates all the others. Music, with its ability to both reflect and shape my mood, has supported me through the rigors of medical training, even when it meant getting up at 5:30 a.m. to ensure that rounds and notes were done before an afternoon performance, or stealing away from a rehearsal when the muted buzz of my pager called. I am by no means unique in this double life. In this calling to both medicine and music, I follow in the footsteps of eminent physicians such as Theodor Billroth and Albert Schweitzer. Billroth, a well-known surgeon in the second half of the nineteenth century, was also a talented violinist and close friend of the composer Johannes Brahms. Schweitzer, on the other hand, was already a theologian and accomplished organist when he decided to become a medical missionary in French Equatorial Africa. Even today, doctors' orchestras thrive in many cities, paying tribute to an unseen highway connecting medicine and music.



This also makes music a wonderful way to connect with both colleagues and patients. At a recent *Messiah* performance, I found myself smiling at a string player in our shared joy at performing Handel's classic. Only later, at the reception, did I learn that she, too, was a physician, struggling as I do to maintain this passion for music, this beloved avocation, against the demands of career and family. Another colleague of mine, who professes no special performing talent, nonetheless possesses an encyclopedic knowledge of classical music and its history, and I learn something from every conversation. The connection with some of my patients is equally strong. When I mourned the loss of Lorraine Hunt Lieberson's powerful voice and presence with a patient recently, she not only commiserated but thoughtfully brought to her next visit a copy of the *New Yorker's* eloquent eulogy to Lieberson. Others have appeared at my concerts, sometimes unintentionally but more often to cheer on their singing doctor. Whether we are discussing jazz saxophone, hopes for a nascent rock band, or the tranquility of an unaccompanied cello suite, music forms invisible bonds between people. It is a language that largely transcends cultural and linguistic barriers, allowing for a fuller and more three-dimensional relationship with patients and colleagues.

It is said that the brains of musicians are different than those of others in auditory, motor, and visual-spatial areas, and that they have a larger corpus callosum (Gaser and Schlaug 2003). As a cardiologist, I have no firsthand knowledge in this area, but I do know that my life has been different, and infinitely richer, because of music. Like many others, I play multiple roles in life. I like to think I'm better at all of them than I would be otherwise, because "musician" is on the list.

Dr. Fleischmann (Pictured lower right) is a cardiologist and Associate Professor of Clinical Medicine at the UCSF, as well as a mezzo-soprano who performs in the Bay Area.

Medicine as Art: As Told by a Medical Student-Musician

Interview by Whitley Hill
Photograph by J. Adrian Wylie

Jane Lee is a first-year medical student originally from Steilacoom, Washington, and a violinist with the Life Sciences Orchestra. The orchestra consists of members of the life sciences community from across the University of Michigan and is part of the Health System's Gifts of Art program.

"I started playing when I was five years old. Initially, it took a lot of practice and repetition—and squeaking. Being a violinist has taught me the value of years of training and practice, the attention to detail and all the time it takes to produce a finished product, to master a skill. Once the foundation is set, you develop your own style and expression. It's the same with medicine. That's why I like the depiction of medicine as an art.

"The Life Sciences Orchestra was a huge draw for me. At the audition, I asked one of the organizers if he taught in the School of Music and learned he's actually a professor of dermatology. It gave me some perspective—that I can continue playing music throughout my medical career.

"I saw one of my professors after our last rehearsal. It's great to be able to talk to her about medicine, but also to be playing music alongside her without being in a hierarchy."—Jane Lee

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