

# Performing Arts Medicine

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*Third Edition*



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*Editors*

*Robert Thayer Sataloff, MD*

*Alice G. Brandfonbrener, MD*

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## **Performing Arts Medicine, 3rd ed.**

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## ▲ Foreword to the Third Edition



I. WINSPUR

Performers endure constant pressure and stress by being on stage under the glare of the spotlight. Our fingers, hands, arms, back, and larynx endure the same. For me, the mechanics of being a violinist need to be intricate, delicate, and precisely coordinated. A minor ailment can throw the playing into potential chaos. A small amount of compensation can lead to the worsening of the situation and can create an unexpected and unwelcome secondary side effect. And the subsequent ripple effect can cause further trouble. And then there are major injuries that can be debilitating and can stop a great career at the peak of the performer's power.

The wear and tear of playing an instrument are unseen by the audience, yet the consequences are all too familiar to many professional musicians. Often, we tend to ignore the pain and hope it just goes away. I am one of them. But after a few too many bouts of this and that, I have come to realize good medical care is an indispensable part of a musician's arsenal.

I have had the pleasure of knowing wonderful doctors who care greatly about the well-being of musicians. They understand the special needs and the rigors of playing an instrument at the highest level. And most important, they know we need to get back out on stage. For many, it's not just an innate desire to perform, but it's their way of earning a living. For a soloist or a freelancer, there is no equivalent of baseball's disabled list—no performance, no income.

That's why I want to take this opportunity to salute those doctors who can help us get back to top form. Although they cannot practice for us (I sometimes wish they could), their skill and dedication enable us to resume playing and to do so with comfort and confidence. I want to say "thank you" and to wish these doctors and health care professionals continued success and progress so musicians can bring their artistry to audiences everywhere without hindrance.

*Cho-Liang (Jimmy) Lin  
Houston  
November 2009*

## ▲ Foreword to the First Edition



B. ACKERMANN

It is with the greatest pleasure (enhanced, I admit, by the tiniest glimmer of smugness) that I write the foreword to this timely volume. As one pianist victim of performance-relation dysfunction, I am constantly reminded of how far the medical professional has come over the last few years toward recognition of specific physical problems incurred by performing artists in the line of duty. Today, the idea of a book devoted to arts medicine is, while perhaps not exactly routine, nevertheless perfectly comprehensible. A decade ago, the very subject did not exist.

A decade ago, medical assistance—and, to a great extent, even medical sympathy—for an affliction such as mine was unavailable. In 1979, when I first sought help for a hand problem, my symptoms were described by the physicians I consulted as “bizarre” and “exotic.” Today, similar symptoms in pianists are known to be not uncommon. Ten years ago, when I first sought help, I was considered to be either slightly crazy or terminally ill. Today, an instrumentalist similarly afflicted stands a good change of obtaining at least an intelligent diagnosis. Ten years ago, I was bounced back and forth among a dozen orthopedists and neurologists, none of whom really wanted to have anything to do with me. Recently, I had the deliciously evil pleasure of lecturing a ballroom full of orthopedists and neurologists about the error of their ways.

Ten years ago, mine was a voice in the wilderness. Today, much of the undergrowth in that wilderness has been cleared away, and a pianist with symptoms similar to mine may visit performing arts clinics in Boston, Chicago, Cleveland, New York, Philadelphia, San Francisco, and in many other cities throughout the United States. Practically every week I receive information about new medical clinics for treating ailments of performing artists. For this I am grateful. I am also grateful to have been instrumental—albeit inadvertently—in the development of this new medical subspecialty, and also in alerting musicians—performers, teachers, and students alike—to the physical hazards they face. Simple awareness of these dangers on the part of the musician, as well as the musical and medical advisors, may go a long way toward

prevention. If I had only known 12 or 15 years ago what almost every pianist now knows about these physical perils, I probably could have arrested the development of my problem before it became incapacitating.

At the time I first became conscious that something was very wrong with the way my right hand was functioning at the piano, there was literally no place for me to go, and no doctor who would really listen to what I was saying. My symptoms were so specialized that I needed a keyboard to demonstrate convincingly what was wrong. I had no pain, no numbness, no tingling. Only in certain very specific, extended positions of my right at the keyboard—playing a series of octaves, for example—did my trouble surface. I was able to play the first octave normally, but the act of striking each subsequent one caused my fourth finger to draw in more and more, dragging the fifth along with it as my hand contracted and, of course, I hit wrong notes. It was never any different. My hand could always normally negotiate certain patterns at the keyboard and, just as predictably, could never negotiate certain other patterns without contracting. I tried to articulate these symptoms verbally; I demonstrated physically as well as I could on examining-room tabletops. I was tested for all sorts of neurological blockages, tangles, injuries, and diseases, but when no abnormality could be found, I was regarded with exasperation as one of these mentally unbalanced artists—“aren’t they all?”—and sent away.

Hard as it is to believe as I write this, not quite 10 years later, when occurrence of performance-induced dysfunction is so widely accepted, none of the 18 doctors I consulted during the fall and winter of 1979 would even consider the possibility that my disability might have been caused, or at least triggered, by playing the piano. Either I was nuts or, as some of the specialists decided, I must be suffering from one of several disorders of the central nervous system. “See? Those two fingers are curling, the earliest symptoms of Parkinson’s disease,” I was informed by one world-famed neurologist. “But,” I reminded him, “only on my right hand” (the hand that gets most of the slamming). “Don’t worry,” he soothed me. “Your left hand will start to curl soon, too.”



J. HENNAGER

Ultimately, the nature of my performance-induced injury was finally recognized early in 1980. My experience led my friend and colleague, Leon Fleisher, whose right hand had been disabled for many years, to seek consultation as well. After a *New York Times* article appeared about our plight, instrumentalists from all over North America began to solicit help regarding physical disabilities possibly related to their work. By the summer of 1982, musicians with physical dysfunctions had begun to discover that what they had previously considered to be their unique miseries were, in fact, widely shared. Soon, doctors began to realize that most of the physical complaints of the musicians they examined were attributable, at least in part, to the mechanics of playing or in some cases simply holding their instruments.

And now, thanks to the extraordinary and continuing publicity that the field of arts medicine receives, such information is virtually common knowledge. Now we know that inflamed tendons and nerve compression, if not motor control disorders, are fairly typical afflictions of instrumentalists. We know that violinists can suffer neck, shoulder, and arm pain simply because of the way they grip the instrument. We know that trumpet players are prone to develop outpouching of the upper airway from the strain of hitting high notes. We know about harpist's cramp and flutist's skin eruption and bassoonist's thumb, and even that the height of a cellist's chair can cause formerly unsuspected difficulties. Performers have become infinitely more aware of the dangers that await in the pursuit of their daily routines.

I know that my piano students today are far more conscious of what they are doing physically at the instrument than my contemporaries and I were when we were students. Certainly I am more aware of my students' physical behavior at the instrument. If they complain of any strain or if they sustain any kind of injury that interferes even slightly with their playing, I advise them not to play at all until they can

use the injured part of the body normally. By "normally," I mean what is normal for them, because there is no absolute right or wrong way to hold the hand, arm, wrists, etc., or to sit at the instrument. It has to be done in the way that is most natural for the individual—and there are almost as many different ways of playing naturally as there are individuals who play.

I think the most I can do as a teacher is to make sure that my students learn to be aware of what they are doing. They should learn to be conscious early on if they are sliding into physical habits that distort their natural position. This new awareness brings with it, unfortunately, the side effect of sometimes being too self-conscious, but I guess that is a lesser evil than permitting potentially devastating habits to take over, as happened with me.

For it is really only through education—and thus prevention—that we can keep these physical problems at bay. Treatment for many such dysfunctions is still in the experimental stage and so far some of them cannot be reversed. So it is up to those at risk to inform themselves about these dangers, how to avoid them, and what kind of medical help is available when necessary.

I think, therefore, that this book should be of immeasurable usefulness to performing artists of all kinds. I hope that it will prove similarly invaluable to members of the medical profession as well, particularly when presented with hand symptoms by a pianist, or foot symptoms by a dancer, or throat symptoms by a singer, or lower back symptoms by a cellist. To be sure, it is necessary for physicians to investigate all possibilities of disease. By all means, scan the brain and probe the psyche. But it is also crucial to remember that the very act of performing can also be injurious to a performer's health.

Gary Graffman  
Philadelphia, 1991



## ▲ Foreword to the Second Edition



A. BABIN

The evolution of arts medicine has been of great interest and importance to all of us involved in the performing arts. Instrumentalists, singers, dancers, and other artists require bodily near-perfection in order to deliver optimal artistic performance. For centuries, it has been clear that artistic performance can be undermined by bodily frailties and illnesses. Some such illnesses are coincidental, afflicting everyone in the population, but producing disproportionate effects on artists who may be disabled by “minor” ailments. Other dysfunction may actually be caused by performance itself. Unfortunately, until the 1980s, performers received little help and understanding from the medical community. The development of arts medicine has changed that, providing expertise and easy access to enlightened medical care.

Performers depend upon excellent physical condition to practice their arts and generate their livelihoods. Similarly, impresarios, conductors, and business people depend upon the health of performers in order to maintain the business structure that brings artistic performance to the public and financial support to the many people required for the survival of the performing arts. When a performer develops pain, weakness, or other health complaints that may affect performance, it is extremely important to be certain that medical and performance judgments are correct and based upon scientific expertise. Inappropriately allowing an injured artist to perform may produce not only a poor concert, but also prolonged or permanent injury. This may end an artist’s career and potentially generate undesirable liabilities for management. Allowing a sick or injured artist to perform may also damage a performer’s reputation even if serious injury does not occur. For a younger artist, poor performance and reviews may substantially damage or delay a career. However, cancelling performances unnecessarily also does more damage than just disappointing the public and leaving the costs of a canceled concert. Cancellation can also damage a performance career by making especially a young performer miss an important “break,” or by giving the performer a reputation for unreliability. Consequently, it is a great comfort to performers, conductors, and management to know that

there are arts medicine specialists who understand the special demands and problems of performers, the importance of a sick or injured performer to other artists involved in a planned concert, and the responsibilities and demands of management. As a conductor, for example, when I am confronted with a sick singer the day before (or of) an operatic performance, it is essential that I have access to a laryngologist I trust. I must know that the evaluation my singer receives will be grounded in the latest concepts of vocal arts medicine, that the physician will make every effort to get the performer onstage if it is safe to do so, and that if the performer is allowed to sing, he or she will make it through the performance without suffering serious injury or having his or her voice fail halfway through the opera. Similarly, when the laryngologist determines that the singer cannot perform, I must have confidence that that decision was correct and unavoidable. Twenty years ago, such medical expertise was rare or nonexistent. Now, it is available in many major cities around the world and is becoming more widely available each year.

*Performing Arts Medicine* should be available to both physicians and performing artists. It is the second edition of the first textbook on this important subject. It provides guidelines for physicians interested in learning about and caring for the specialized problems of performers. It also provides information useful and understandable for performers and their teachers. Acquiring such knowledge helps performers understand their bodies and avoid injuries; and it puts them in a much better position to assess the quality of the medical care they receive when health problems occur. The book was written not only as a medical reference, but also as a text for use in pedagogy courses at music schools. Teachers and performers will be well served by learning the principles and facts between these covers, and by participating actively in the acquisition of new knowledge and the further evolution of performing arts medicine.

*Charles Dutoit  
Montreal, 1998*

## ▲ Preface



R. LEDERMAN

*Performing Arts Medicine*, 3rd edition, provides a unique compilation of expert insights into all areas of performing arts medicine. The well-received first edition published in 1991 was the first modern textbook on the subject and helped launch the field. Like sports medicine, arts medicine addresses the special challenges associated with super-normal function. This book reviews the history of performing arts medicine, provides an overview of the causes of medical problems in performing artists, and offers expert, comprehensive chapters by world-renowned specialists on neurological, ophthalmological, vocal, auditory, respiratory, musculoskeletal, psychological, and other problems encountered by performers. The book also includes chapters on adaptive equipment and instrument modification for musicians, physical therapy, and other topics. This unique text was written to be valuable not only for physicians, but also for performers and teachers. Although it was designed originally to be used as a medical text and reference, it is also ideal for use in music pedagogy courses. The information contained is as valuable for music and dance professors and performers as it is for physicians.

The first edition of *Performing Arts Medicine* (1991) was the first modern textbook in a new and exciting field of medicine. It was written because of a compelling need for information among physicians, performers, teachers, and therapists. Educational information has been difficult for most people to acquire because of the interdisciplinary nature of arts medicine. In recent years, the development of arts medicine has become possible because of collaboration among physicians, performers, music teachers, acting teachers, physical therapists, speech-language pathologists, nurses, dance instructors, and others who have not traditionally worked closely together. Teamwork has resulted in a new understanding among all the professions and the bridging of language barriers that have traditionally hindered performers' access to treatment.

Interested physicians have risen to the special challenge of arts medicine. In most other areas of medicine, we are given wide latitude in our definition of "normal." Arts medicine does not permit such imprecision. The difference between

95% recovery of an injured finger and 100% recovery may mean the difference between a world-class performing career as a violinist and obscurity. Arts medicine physicians are learning to recognize the subtle differences between normal, supernormal, and perfection by performers' standards.

In addition to interdisciplinary teamwork, the development of performing arts medicine has been assisted through basic science research and new technology. While an enormous amount of clinical and basic information remains to be discovered, and although performance applications of many of our new insights remain unexplored, it is clear that the field of arts medicine is firmly established. Its development is a proud saga of creative professional response to a neglected public health need.

The second edition was written to summarize new information about arts medicine. Since its publication in 1998, interest in arts medicine has continued to expand among physicians, teachers and performers. The third edition updates and expands chapters from the first and second editions and serves as a compendium of the latest information in each of the primary subspecialties of performing arts medicine. Each chapter includes an introduction to the concepts and terminology that should make this book valuable not only as a medical reference but also as a textbook for performing artists and educators who are interested in health and medical aspects of pedagogy.

Chapter 1 traces the history of performing arts medicine from the 1700s to the present. Chapter 2 offers an overview of the causes of medical problems of performing artists in various musical specialties. Chapter 3 provides a succinct summary of neurologic disorders affecting performing artists and it includes illustrative case reports. Chapter 4 offers insight into the special visual needs of performing artists and their specialized management. Chapter 5 reviews the problem of hearing loss in singers and other musicians, including issues of occupational hearing loss associated with exposure to pop and classical music performance. Chapters 6, 7, and 8 offer in-depth information about diagnosis and treatment of disorders of the voice affecting singers, actors, and other profes-



M. PETERS—MONTCLAIR STATE UNIV., NJ

sional voice users. Chapter 9 is an extraordinary, comprehensive discussion on the temporomandibular joint and dental issues that affect musical performance.

Chapter 10 discusses the issues of respiratory dysfunction in singers and wind instrumentalists and the impact of even subtle obstructive lung disease. It highlights special treatment considerations required in singers. Chapters 11 and 12 review the unique impact of musculoskeletal dysfunction in instrumentalists and important principles of treatment of arm and hand dysfunction in performers. Chapter 13 expands on the special challenges of therapy in the injured instrumentalist. Chapters 14 and 15 focus on problems in dancers including not only foot and ankle injuries, but also orthopedic injuries elsewhere in the body that may be associated with dance and may impair dance performance. Chapter 16 reviews HIV infection and its important impact on the performing arts community. Chapters 17 through 20 provide comprehensive coverage of psychiatric and psycho-

logical issues affecting performers and the considerations that guide management in this special population.

We anticipate continued rapid advancement in all of the specialties of arts medicine and look forward to including not only new medical developments but also additional subspecialties in future editions. We hope that this book will serve the medical community well not only directly but especially through its use in music school classrooms. We also hope that the information provided helps familiarize more students and teachers with potential medical problems associated with performance—and that this knowledge helps prevent such problems in an increasing percentage of performers in coming years.

*Robert Thayer Sataloff  
Alice G. Brandfonbrener  
Richard J. Lederman  
July 2010*

# Performing Arts Medicine



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