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HANNAH MURRAY

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SCHOOL OF MUSIC

BY

Dr. Anthony Stoops, Co-Chair

Dr. Gregory Lee, Co-Chair

Dr. Marvin Lamb

Dr. Sanna Pederson

Dr. Allison Palmer

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DEDICATION

To my students, present and future.

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Abstract

Yehudi Menuhin was the first famous musician to use yoga as a way to address pain and the physical issues related to his career as a concert violinist. Iyengar Yoga is the original form of alignment based yoga and was created and developed by yoga guru B.K.S. Iyengar. Menuhin's work with Iyengar was the first collaboration between a classical musician and a yoga teacher and was essential to the rise in popularity of yoga in Western Europe and the United States. Many musicians now promote yoga as an excellent way to alleviate the difficulties of playing an instrument and combat the physical symptoms of performance anxiety.

This document examines the initial collaboration between B.K.S. Iyengar and Yehudi Menuhin, how Menuhin used yoga to combat his own pain and physical issues, and how yoga influenced his approach to teaching and playing the violin. It also examines how Iyengar Yoga and alignment based yoga developed as a form of therapy and how musicians employ yoga as a way to address musculoskeletal and somatic issues. The field of performing arts medicine, established in the 1980s, regularly publishes research regarding the medical conditions that affect violinists. This document examines the research and positive results of using yoga therapeutically to address issues that also impact violinists.

The final chapter of this paper is a tribute to Menuhin and Iyengar and offers Iyengar Yoga for violinists in the practice room, rehearsal, lesson, and performance settings. These recommendations use medical information regarding violinists' health

and the benefits of alignment based yoga to enhance violin playing by reducing the chance of injuries and the negative effects of performance anxiety.

Chapter 1: Introduction

Statement of Purpose

The collaboration between violinist Sir Yehudi Menuhin and yoga guru Sri B.K.S. Iyengar marks the first inclusion of yoga by a classical musician. Their initial meeting in 1952 and resulting partnership established Iyengar Yoga as an international teaching method. Menuhin's enthusiasm for yoga is significant for the music community because his determination to combat the physical and mental troubles caused by playing the violin forced him to address the entire musician in a manner that was previously uncommon in musical training. His work inspired many musicians to use yoga to alleviate the issues associated with playing their instrument. Menuhin's initial search for professional solutions and his subsequent work with Iyengar resulted in a growing number of resources for musicians promoting yoga as a way to enhance learning, performance, and practice.

This document discusses Menuhin's use of yoga in his musical practice, teaching, and performance regimen. It also clarifies Iyengar's unique approach to alignment and the therapeutic significance for numerous physical conditions and musculoskeletal pain. At present, many musicians use yoga as a tool to ease playing related discomfort. This document reviews playing-related musculoskeletal disorders, and symptoms of performance anxiety reported by violinists to provide an overview of concerns associated with the instrument. It applies published research that focuses on the therapeutic benefits of yoga to the field of performing arts medicine to illuminate

how yoga can successfully ease pain, and alleviate physical manifestations of performance anxiety most common among violinists. This document provides violinists with a practical application of yoga poses and breathing exercises found in the teachings of B.K.S. Iyengar, to prevent injuries and enhance violin playing.

Need

Injuries in the performing arts became a field of research in the 1980s. Dr. Alice G. Brandfonbrener founded the Performing Arts Medicine Association and established the journal *Medical Problems of Performing Artists*.¹ She created the Medical Program for Performing Artists at Northwestern in 1985, two years after organizing the first "Conference on the Medical Problems of Musicians" in Aspen, Colorado.² Since then, she and others have published numerous studies, articles, books, and research regarding a range of physical and mental issues associated with music performance. In "Performance-Related Medical Problems Among Premier Violinists," Hiner et al. explain that the demands of the music profession, long practice hours and rigorous performance schedules may compound the risk for development of instrument-specific occupational injuries. This study, published in 1987, was the first survey to relate health

¹ Joan Giangrassse Kates, "Dr. Alice Brandfonbrener, 1931-2014," *Chicago Tribune*, June 12, 2014, accessed January 10, 2017, http://articles.chicagotribune.com/2014-06-12/news/ct-alice-brandfonbrener-obituary-met-20140612_1_chicago-theatre-performing-artists-winnetka.

² Lederman, Richard J. "Alice G. Brandfonbrener, MD-A Personal Remembrance." *Medical Problems of Performing Artists* 29, no. 3 (September 2014): 123–24. Accessed January 10, 2017, <https://www.ncbi.nlm.nih.gov/pubmed/25194108>.

problems to specific components of violin technique.³ Dr. Katrin Meidell focused her dissertation, "Epidemiological Evaluation of Pain Among String Instrumentalists," on performance anxiety and pain in string players. She provides specific data regarding physical pain and performance anxiety for each string instrument.⁴ In the article "Influence of Neck-Shoulder Pain on Trapezius Muscle Activity among Professional Violin and Viola Players," Berque and Gray note that string players have the highest risk of playing-related musculoskeletal disorders with the neck and shoulders being the prime sites affected.⁵ In their article, "Injury Prevention: What Music Teachers Can Do," Guptill and Zaza explain that the most common injury inducing risk factors for all musicians includes improper posture, long practice sessions, stress, repetition, and improper instrument size.⁶

Yoga therapy is a relatively new field of research that investigates the use of yoga to combat and ease physical pain, mental troubles, and emotional difficulties. These sources often focus on areas of the body and concerns that violinists also suffer from, including neck and back pain, fatigue, anxiety, inflammation, stiffness, and muscular discomfort.⁷ In "A Single Session of an Integrated Yoga Program as a Stress Management Tool for School Employees: Comparison of Daily Practice and Nondaily

³ Sharon Hiner et al., "Performance-Related Medical Problems Among Premier Violinists," *Medical Problems of Performing Artists* 2, no. 2 (June 1987): 67.

⁴ Katrin Meidell, "Epidemiological Evaluation of Pain Among String Instrumentalists," (D.M.A. diss., University of North Texas), May 2011.

⁵ Patrice Berque and Heather Gray, "Influence of Neck-Shoulder Pain on Trapezius Muscle Activity among Professional Violin and Viola Players," *Medical Problems of Performing Artists* 17, no. 2 (June 2002): 68.

⁶ Christine Guptill and Christine Zaza, "Injury Prevention: What Music Teachers Can Do," *Music Educators Journal* 96, no. 4 (June 2010): 29.

⁷ *Ibid.*, 28.

Practice of a Yoga Therapy Program," Nosaka and Okamura found the daily practice of yoga to be effective for improving mental health and anxiety among school employees in Japan.⁸ In "The Effects of a Therapeutic Yoga Program on Postural Control, Mobility, and Gait Speed in Community-Dwelling Older Adults," Kelley et al. determined that yoga is an ideal group exercise program to improve postural control and mobility in older adults.⁹ In "'I'm More in Balance:' A Qualitative Study of Yoga for Patients with Chronic Neck Pain," Holger et al. investigated the results of Iyengar Yoga to treat chronic neck pain, noting that yoga is a common complementary treatment used by many adults explicitly to treat pain.¹⁰ Prior to this document, the link between studies demonstrating the benefits of Iyengar Yoga and the needs of violinists did not exist.

Yoga continues to gain popularity as a form of exercise, health maintenance, and therapy for relieving musculoskeletal conditions and pain.¹¹ Sources intended specifically for musicians often apply the benefits of yoga to all performers and focus on the general advantages of incorporating yoga or yoga-derived stretching into one's daily routine. This document applies Iyengar Yoga to the specific needs of violinists. Many performers and teachers cite the preventative and therapeutic benefits of yoga as

⁸ Michiyo Nosaka and Hitoshi Okamura. "A Single Session of an Integrated Yoga Program as a Stress Management Tool for School Employees: Comparison of Daily Practice and Nondaily Practice of a Yoga Therapy Program." *The Journal of Alternative and Complementary Medicine* 21, no. 7 (July 2015): 444. Accessed January 18, 2017. doi:10.1089/acm.2014.0289.

⁹ Kathleen Kelley et al., "The Effects of a Therapeutic Yoga Program on Postural Control, Mobility, and Gait Speed in Community-Dwelling Older Adults." *The Journal of Alternative and Complementary Medicine* 20, no. 12 (December 2014): 953. Accessed January 18, 2017. doi:10.1089/acm.2014.0156.

¹⁰ Holger Cramer et al., "'I'm More in Balance': A Qualitative Study of Yoga for Patients with Chronic Neck Pain." *The Journal of Alternative and Complementary Medicine* 19, no. 6 (June 2013): 536. Accessed November 11, 2016. doi:10.1089/acm.2011.0885.

¹¹ Ward, Lesley. "Yoga: A Useful and Effective Therapy for Musculoskeletal Disorders?" *Physical Therapy Reviews* 18, no. 4 (August 2013). Accessed November 11, 2016. doi:10.1179/1743288X13Y.0000000093.

a way to combat technical difficulties, aches, pains, and anxiety linked to performance and practice. Evelyn Lee Soen, a violinist and Iyengar Yoga student, uses several yoga poses and breathing exercises in her private violin studio, citing yoga as a tool that helps students learn more efficiently in lessons.¹² Mia Olson, a flutist and author of *Musician's Yoga*, explains that yoga can be used as a physical warm up, to prevent and relieve physical ailments, strengthen the body, and stimulate mental focus.¹³

The final portion of this document offers a practical application of Iyengar Yoga specifically designed to meet the needs of violinists in four unique settings: the practice room, rehearsal, lesson, and performance environment. The recommendations found in this section use the research offered in this document to provide the benefits of Iyengar Yoga to violinists of all fitness levels. The primary beneficiaries of this document are professional violinists, students, and teachers. The final chapter serves as a practical guide to including yoga in the practice, rehearsal, lesson, and performance settings. Educators working with students can use this document as a guideline for adding yoga to their teaching in the private lesson setting.

Procedures

This document consists of five distinct parts. The following chapter discusses the life and work of Yehudi Menuhin and B.K.S. Iyengar and offers an overview of how yoga was first used therapeutically by a violinist. The third chapter explores how

¹² Evelyn Lee Soen, "Yoga Within the Music Studio," *American Music Teacher* 54 no. 1 (Aug. & Sept. 2004): 36. Accessed June 4, 2016. <http://www.jstor.org/stable/43547531>.

¹³ Mia Olson, Introduction to *Musician's Yoga* (Boston: Berklee Press, 2009), ix.

musicians currently use yoga to enhance their musical pursuits. Some of these sources do not use Iyengar Yoga specifically. This portion is divided into sections discussing breathing exercises, standing poses, forward bends, backbends, inversions, arm balances, balancing exercises, yoga routines, and resting poses.

Chapter four conducts an extensive study of the literature regarding the physical issues that plague violinists. This section relies on data in the field of performance arts medicine to detail common injuries and physical manifestations of anxiety to highlight the parts of the body most affected by playing the violin, and how yoga can be used to prevent or reduce some of these physical problems and diminish the symptoms of performance anxiety. The fifth chapter explores the growing body of research regarding yoga as a therapy for a range of physical issues and anxiety. The studies referenced in this chapter focus on issues and areas of the body that overlap with the needs of violinists highlighted in chapter four. Yoga proves successful as therapy when addressing a variety of ailments including shoulder injuries, anxiety, neck and shoulder pain, and carpal tunnel syndrome.

Finally, this document adds to the literature by offering original recommendations for violinists looking for ways to prevent injury and enhance their performance through the incorporation of yoga into their musical practice and teaching. These recommendations use Iyengar Yoga and highlight yoga's preventative, strengthening, stimulating, and therapeutic benefits in four unique settings: The practice room, rehearsal, private lesson, and performance.

Chapter 2: Yehudi Menuhin and B.K.S. Iyengar

Introduction

The collaboration between Sir Yehudi Menuhin and Sri B.K.S. Iyengar instigated the increasingly popular inclusion of yoga in music training. The growing field of musicians' health and wellness now includes yoga as a viable form of injury prevention and therapy for pain and playing-related issues. Sources exist in a variety of formats including books, websites, videos, workshops, and retreats for musicians. Menuhin's enthusiasm for yoga played a significant role in bringing Iyengar, and consequently yoga, to the attention of Western Europe and the United States.¹⁴ As a result, Iyengar became an international yoga authority, publishing numerous books, traveling worldwide to present demonstrations and lectures, and ultimately establishing Iyengar Yoga as an international school of yoga teaching and training. Until now the influence of Menuhin and Iyengar's collaboration in the field of music education, performance, and pedagogy has remained largely uninvestigated. This chapter illuminates their partnership, the significance of Iyengar's therapeutic approach to yoga, and how Menuhin incorporated yoga into his violin playing and teaching.

¹⁴ Michelle Goldberg, "Iyengar and The Invention of Yoga," *The New Yorker*, August 23, 2014, accessed June 16, 2016, <http://www.newyorker.com/business/currency/iyengar-invention-yoga>

Yehudi Menuhin

Yehudi Menuhin (1916-1999) was the best-known violin child prodigy of the twentieth century.¹⁵ He began studying the violin in 1921 at the age of five and made his solo debut with the San Francisco Symphony at the age of seven. From a very young age Menuhin performed as a premiere violin virtuoso giving recitals, and performing as a soloist with major orchestras around the globe. His demanding touring, recording, and performing schedule eventually led to exhaustion, physical issues, and pain that affected his violin playing. Menuhin's biographer, Humphrey Burton, speculates that between the ages of twenty-one and thirty-six, Menuhin endured an internal struggle.¹⁶ Diana, Menuhin's second wife, explains that the fragmentation of his first marriage and struggling with the physical issues impacting his violin playing slowly unbalanced him and led to weakened performances and harsh reviews from critics.¹⁷ In *Who Is Yehudi?* presenter and violinist Clemency Burton-Hill explains that following World War II, Menuhin's playing was imprecise and unfocused.¹⁸

Between 1941 and 1944 Menuhin performed hundreds of concerts for the troops as part of the war effort. Burton speculates that the wartime lifestyle of constant travel and lack of practice effectively ruined Menuhin's playing.¹⁹ Menuhin explains this period of his professional life as lacking a solid physical and technical foundation to

¹⁵ Humphrey Burton, *Yehudi Menuhin: A Life* (Boston: Northeastern University Press, 2001), 15.

¹⁶ *Ibid.*, 336.

¹⁷ Diana Menuhin, *Fiddler's Moll: Life with Yehudi* (New York: St. Martin's Press, 1984), 31.

¹⁸ James Maycock, *Who's Yehudi?* London: 1212 Productions for BBC Four, 2016.

¹⁹ Burton, *Yehudi Menuhin: A Life*, 244.

rely on: “I played the violin without being prepared for violin playing, and it was inevitable that, the strain imposed by the breakdown in personal life coinciding with the unprecedented pressures of wartime touring, my lack of preparation would begin to tell.”²⁰ He knew that motion was the essence of the problem, and his search for remedies took him in many directions; he trained with John Borrican, the American Olympic runner, sought advice from respected colleagues including violinist Joseph Szigeti, and pedagogues Theodore and Alice Pashkus, practiced technical exercises, and read classic pedagogical studies.²¹ Menuhin understood that he would not be able to continue until he mastered violin technique and could “recapture that ease [he] once possessed without thinking and which was now deserting him.”²² Through his continued investigation and search for answers Menuhin discovered that “all influences pointed towards less tension, more effective application of energy, the breaking down of resistance in every joint, the coordination of all motions into one motion; and illustrated the profound truth that strength comes not from strength but from the subtle comprehension of process, of proportion and balance.”²³

In 1952, during a concert tour of New Zealand, Menuhin found a book about yoga in an osteopath’s reception room and was intrigued; “He was instantly struck with ‘the force of a revelation’ that a study of yoga could point a way to further comprehension of violin playing.”²⁴ He took it with him and attempted the exercises

²⁰ Yehudi Menuhin, *Unfinished Journey* (New York: Alfred A. Knopf Inc., 1977), 162.

²¹ Ibid.

²² Ibid.

²³ Ibid., 250.

²⁴ Ibid., 320.

every day for the remainder of the tour and found them to be complementary to his lifestyle and needs. Yoga became a vital part of his daily routine for the rest of his life, “[he found] much pleasure in exercises that demanded no strain but on the contrary inner quietness, which were neither aggressive nor competitive but to be done in solitude, which required no equipment but a few feet of floor space.”²⁵ According to Menuhin, “yoga promised release from physical impediments” and it served as a way to understand the mechanics of violin playing.²⁶

The exceptional reviews that Menuhin garnered for the performances immediately following his return from India and study with B.K.S. Iyengar indicate that yoga partly revitalized his career. The *Bath Critic*, *The New York Times*, and *Newsweek* raved about his warm and mature sound, command as an interpreter, and performances full of vitality and personality.²⁷ Burton acknowledges that following his trip to India and work with Iyengar, Menuhin’s playing took on a new bloom.²⁸

²⁵ Menuhin, *Unfinished Journey*, 246.

²⁶ Ibid.

²⁷ Burton, *Yehudi Menuhin: A Life*, 335-336

²⁸ Ibid.

B.K.S. Iyengar

Bellur Krishnamachar Sundararaja Iyengar, known as B.K.S. Iyengar (1918-2014), was a sickly child with thin arms and legs, a protruding stomach, and a heavy head who suffered from constant bouts of illnesses including malaria, typhoid, and tuberculosis of the lungs.²⁹ In 1934, the famous yoga teacher, Sri Tirumalai Krishnamacharya (T. Krishnamacharya), invited Iyengar to live with and care for his wife, Iyengar's sister, while he was away on a yoga demonstration tour.

Upon his return from the tour, T. Krishnamacharya, considered the “father of modern yoga,” invited Iyengar to continue working for his family in Mysore in exchange for yoga *asana* instruction for improved health.³⁰ For several years Iyengar struggled to practice yoga and was not convinced of the benefits but persevered and after three years began to see changes in his health. Iyengar claims that Krishnamacharya did not see any potential in him as a yogi, and taught him only the most fundamental yoga *asanas*, learning the more difficult *asanas* on his own.³¹ During Iyengar's first year of study with Krishnamacharya one of the most advanced students abruptly left forcing Krishnamacharya to focus on Iyengar's progress more intensely, pushing him to practice twice per day and relying on his young student to participate in yoga demonstrations.³² In 1936 at age eighteen, Iyengar moved to Pune to teach at the

²⁹B.K.S. Iyengar, *Yoga Wisdom and Practice* (New York: DK Publishing, 2009), 10.

³⁰ B.K.S. Iyengar, *Yoga: The Path to Holistic Health* (New York: DK Publishing, 2014), 11.

³¹ *Ibid.*, 11-12.

³² *Ibid.*, 12.

Deccan Gymkhana Club. In 1948 he worked with Jiddu Krishnamurthi, one of India's greatest philosophers.³³ This partnership brought respect and renown to Iyengar, but his dream of popularizing yoga was accelerated most when he met Yehudi Menuhin in 1952.

Iyengar Yoga

In 1935 Iyengar participated in an important yoga demonstration where he was unexpectedly ordered to perform the very challenging *Hanumanasana*,³⁴ a pose he was not capable of completing, and had never previously attempted. In his ultimately successful attempt of this *asana*, Iyengar tore his hamstring muscle and spent years in recovery. This incident made him realize that attempting certain *asanas* suddenly, without preparation, can harm the body and the mind.³⁵ As a result, he started evolving *asana* sequences scientifically, developing a progressive approach and categorizing them as purifying, pacifying, stimulating, nourishing or cleansing.³⁶

In the 1940s, Iyengar began to apply yoga therapeutically to heal or alleviate various common ailments including sinus problems, asthma, flatulence, general weakness, backache, headache, and fatigue.³⁷ After helping a young girl recover from Polio of the spinal column, he gained notoriety both locally, and in the medical

³³ Ibid., 14.

³⁴ The splits, in gymnastics.

³⁵ Iyengar, *Yoga: The Path to Holistic Health*, 12.

³⁶ Ibid.

³⁷ Elliott Goldberg, *The Path of Modern Yoga* (Rochester: Inner Traditions, 2016), 377.

community and developed several lecture demonstrations in collaboration with retired surgeon, Dr. V.B. Gokhale, to explain and demonstrate the health benefits of Hatha yoga. This collaboration with a medical doctor taught Iyengar the anatomical vocabulary necessary for studying and understanding the human body.³⁸

After years of study and research, Iyengar came up with the theory that perfect bodily symmetry removes undue stress and restores health to the organic and cellular body.³⁹ Iyengar realized that alignment is the key to maintaining and achieving precision, rigor, balance, full extension, and also relaxation in each *asana*. The basic biomechanical principle that underlies Iyengar's *asana* practice is alignment, specifically the "symmetry of body segments from left to right and balance of body segments from front to back."⁴⁰ He repeatedly emphasizes in his teachings that "Yoga is alignment,"⁴¹ and applied the principles of postural alignment to each *asana*. In his system of yoga, postural alignment is maintained as much as possible within the unique configurations of each pose.⁴² This process of performing each *asana* with minute awareness, self-inquiry, and mind-body feedback brought a revolution to Iyengar's practice and teaching.⁴³ In 1975, when Iyengar founded the Ramamani Iyengar Memorial Yoga Institute in Pune, the idea of using props on a large scale and in a

³⁸ Ibid.

³⁹ Iyengar, *Yoga: The Path to Holistic Health*, 19.

⁴⁰ Goldberg, *The Path of Modern Yoga*, 406.

⁴¹ Iyengar, *Yoga Wisdom and Practice*, 29.

⁴² Goldberg, *The Path of Modern Yoga*, 405.

⁴³ Iyengar, *Yoga: The Path to Holistic Health*, 19.

systematic way occurred to him.⁴⁴ Beginning in the 1970s in Pune, and 1980s in London, Iyengar introduced wood blocks, blankets, straps, and bolsters in his yoga classes to help students achieve greater extension in each *asana* while also maintaining proper alignment.⁴⁵

Due initially to an invitation by Yehudi Menuhin, Iyengar traveled to Great Britain, Western Europe, and eventually the United States offering yoga demonstrations and classes.⁴⁶ He grew exceptionally popular in the United Kingdom, visiting almost annually to give yoga classes, lectures, and demonstrations. In 1967, in association with the London Community Council, Iyengar began training yoga teachers. In 1969 yoga classes for the general public, taught specifically with Iyengar's method, were introduced into the adult education curriculum of the Inner London Education Authority (ILEA). These classes served as the foundation on which Iyengar Yoga was built internationally.⁴⁷

According to senior Iyengar teacher John Schumacher, Iyengar's contributions to the literature of yoga are inestimable. His first book, *Light on Yoga*, is a comprehensive guide to over two hundred yoga *asanas*, offering detailed instructions for the execution of many classical *asanas* and their benefits.⁴⁸ Goldberg describes *Light on Yoga* as a systematic, wide-ranging, and in-depth presentation of *asana*

⁴⁴ Iyengar, *Yoga Wisdom and Practice*, 28-29.

⁴⁵ Goldberg, *The Path of Modern Yoga*, 403.

⁴⁶ Kofi Busia, introduction to *Iyengar: The Yoga Master*, ed. Kofi Busia (Boston: Shambhala Publications, 2007), xvii.

⁴⁷ *Ibid.*

⁴⁸ John Schumacher, "Light on Love," in *Iyengar: The Yoga Master* ed. Kofi Busia (Boston: Shambhala Publications, 2007), 65.

practice. When published, it vastly broadened the standard yoga practice and increased interest in all types of Hatha yoga.⁴⁹ Senior Iyengar teacher, Wilfred Clark, considers *Light on Yoga* a classic text and refers to it as "the Bible of yoga."⁵⁰

Iyengar Yoga is now a global organization that includes teacher trainings, workshops, and yoga classes worldwide. Following the publication of *Light on Yoga*, Iyengar published numerous other books on the various aspects of yoga. Yoga students, teachers, teacher trainers, and scholars of Ancient Indian Philosophy rely on these publications, along with his demonstration videos, and interviews for training, research, and education.⁵¹

⁴⁹ Goldberg, *The Path of Modern Yoga*, 389.

⁵⁰ *Ibid.*, 381.

⁵¹ *Ibid.*

Collaboration

Menuhin and Iyengar

At the end of February 1952, just a few months after his discovery of yoga, Menuhin departed on a concert tour in India, where he actively sought out a yoga guru. He considered yoga to be India's greatest gift to world culture, claiming that it simultaneously increased and indexed mental and physical potential: "It helps me to attain poise and balance. Lack of sleep, fatigue or bad thoughts are as effectively reflected during my performances of yogic exercises as in the nuances of my music."⁵² Iyengar described the violinist at their first meeting as "exhausted and suffering from hyperextension of the bow arm."⁵³ He led Menuhin through a series of relaxation exercises, assisting the violinist with a *pranayama* exercise that caused the violinist to fall asleep. Upon waking, forty-five minutes later, Menuhin requested an *asana* demonstration and sought instruction from Iyengar for the remainder of his stay in Bombay. Their initial meeting blossomed into a lifelong friendship, and when Menuhin returned to Bombay in 1954, he hired Iyengar as his yoga instructor.⁵⁴ Their friendship and collaboration lasted until the end of the violinist's life. Menuhin often referred to Iyengar as his most important violin teacher, "declaring that under his tuition he had

⁵² Burton, *Yehudi Menuhin: A Life*, 325.

⁵³ Iyengar, *Yoga: The Path to Holistic Health*, 15.

⁵⁴ Goldberg, *The Path of Modern Yoga*, 380-81.

finally learned how the body worked.”⁵⁵ Iyengar worked with several other classical musicians including cellist Jacqueline DuPré and pianists Sir Clifford Curzon and Witold Makuzynski.⁵⁶ Yehudi Menuhin remained his champion and the violinist regularly invited him to give demonstrations and classes at the Menuhin School in Stoke D'Abernon, London, Bath, and Gstaad Switzerland, where the violinist established a music festival and owned a family home. Menuhin spoke openly about his affinity for yoga and published several books that draw heavily on yoga as a tool to enhance violin playing and teaching.

The Menuhin School

Later in his life, teaching became a central focus for Menuhin and he established the Yehudi Menuhin International School in 1963. He felt that the poor level of contemporary violin teaching, and the diminishing level of string playing in Great Britain could be remedied by initiating a boarding school for young, talented string players and pianists.⁵⁷ From the outset, Menuhin insisted on healthy foods and exercise for the pupils at his school; “Simple basic foods only are used in cooking, i.e. fresh meat, fish and vegetables, plenty of salads and brown bread, fresh fruit and cheese, as it is felt that processed and preserved foods are unsuitable to a balanced diet for growing children.”⁵⁸ In the yoga tradition it is important to keep the mind healthy and the body

⁵⁵ Burton, *Yehudi Menuhin: A Life*, 466.

⁵⁶ Goldberg, *The Path of Modern Yoga*, 381.

⁵⁷ *Ibid.*, 407.

⁵⁸ Eric Fenby and Nicholas Fisk, *Menuhin's House of Music* (New York: Praeger Publishers, 1970), 54.

well nourished. Yogic science recognizes three different qualities of food: *Sattva*, *rajas*, and *tamas*.⁵⁹ Sattvic foods include fruit and vegetables and are considered pure, wholesome, fresh and promote longevity, health, and happiness. Rajasic food is stimulating and produces excitement. Rajasic foods include onions, garlic, and spices. Tamasic foods include alcohol and junk food, are considered heavy and enervating, and produce disease.⁶⁰ Students at the Menuhin School also attended yoga classes several times per week and in 1964 Iyengar visited the School three times to give classes to the students.⁶¹

Six Lessons with Yehudi Menuhin

Forming the school was the impetus and inspiration for six videos called simply *Violin*, and a companion book titled *Six Lessons with Yehudi Menuhin* published in 1971. In the book, Menuhin explains that “[Iyengar] Of course is not a violinist, but some of the principles I have evolved are based on yoga and his teaching of yoga and several of the exercises in the first lesson are his inspiration.”⁶² Each video and corresponding chapter takes the form of a class lesson and focuses on different stages of technical development. Lesson I, titled “General Preparatory Exercises” uses yoga *asanas* to create a solid foundation for playing that focuses primarily on posture and

⁵⁹ Iyengar, *Yoga: The Path to Holistic Health*, 178.

⁶⁰ B.K.S. Iyengar, *Light on Pranayama: The Yogic Art of Breathing* (New York: Crossroads Publishing, 1981), 43.

⁶¹ Burton, *Yehudi Menuhin: A Life*, 408.

⁶² Yehudi Menuhin, *Violin: Six Lessons with Yehudi Menuhin* (London: Faber Music Ltd., 1971), 11.

proper breathing. Lesson I is the only installment that does not involve holding or interacting with the instrument. Menuhin uses *asana* as the foundation for his pedagogical principles in teaching. Table 2.1, located on page twenty-six, is a reference for each *asana* listed in Lesson I of *Six Lessons with Yehudi Menuhin*, including English translations of each *asana*, and the benefits purported by B.K.S. Iyengar. Where indicated, a photo of each *asana* can be found Appendix A of this document.

Menuhin begins with two *pranayama* exercises. *Pranayama* is the science of breath and the practice of breath regulation that seeks to “quiet the mind, bringing it under control through the deep and rhythmic flow of inhalations and exhalations.”⁶³ In *Light on Pranayama*, Iyengar explains “the purpose of *pranayama* is to make the respiratory system function at its best. This automatically improves the circulatory system, without which the processes of digestion and elimination would suffer.”⁶⁴ The first exercise is a modified version of *ujjayi pranayama* (see Appendix A, A.1).

Menuhin instructs the student to sit on the ground cross-legged, resting the palms of the hands facing upwards on the knees and to inhale and exhale quietly. Menuhin suggests using *ujjayi pranayama* to help the student focus on the evenness of each inhalation and exhalation.⁶⁵ This is a simple and effective way to enhance concentration and soothe the nerves. While Menuhin recommends practicing *ujjayi pranayama* as a way to warm up before playing the violin, it can be practiced at any point throughout the day.

⁶³ Iyengar, *Yoga: The Path to Holistic Health*, 252.

⁶⁴ Iyengar, *Light on Pranayama: The Yogic Art of Breathing*, 17.

⁶⁵ Menuhin, *Six Lessons with Yehudi Menuhin*, 17.

The second breathing exercise is *nadi sodhana pranayama* (see A.2). Menuhin instructs the student to cover the nose with the right hand, block the right nostril with the tip of the thumb, and block the left nostril with the tip of the third finger, releasing the left nostril just enough to allow a very thin stream of air to enter, and then releasing the air evenly through the right nostril before repeating this first inhaling through the right, and then exhaling through the left nostril. Menuhin explains that this *pranayama* exercise increases ones' control of the lung capacity, particularly when one lengthens each inhalation and exhalation.⁶⁶ Iyengar explains that *nadi sodhana* cleanses and purifies the nervous system, calming the mind and enhancing focus.⁶⁷

Following the initial breathing exercises, Menuhin targets posture and explains that ideal playing posture for violinists is essentially *tadasana* (see A.3). He states “the basis of good posture is an upward stretching from the toes through the spine to the crown of the head, in which our muscles counteract the natural collapsing tendency of the joints as they surrender to the force of gravity.”⁶⁸ Menuhin begins with this pose because he believes that good posture is essential for vitality and good health and by practicing proper standing posture without the instrument, one starts to comprehend the desired freedom of movement that is ideal when playing the violin.⁶⁹ *Tadasana* is the first *asana* Iyengar highlights in *Light on Yoga* and the alignment of this pose is the foundation for all of his teaching. He articulates that *tadasana* teaches the art of

⁶⁶ Menuhin, *Six Lessons with Yehudi Menuhin*, 18.

⁶⁷ Iyengar, *Light on Yoga*, 448.

⁶⁸ Menuhin, *Violin: Six Lessons with Yehudi Menuhin*, 18.

⁶⁹ *Ibid.*, 18.

standing correctly and can correct bad posture and straighten the spine.⁷⁰ Both Menuhin and Iyengar recognize that most people do not pay attention to how they stand and distribute their body weight across their feet and Iyengar believes that this faulty posture leads to decreased spinal elasticity.⁷¹

The next section of exercises, titled “Basic Positions Preparatory to Action,” includes *adho mukha virasana* and *ustrasana* (see A.27, and A.20, respectively). *Adho mukha virasana* is a forward bending pose that prepares the body for action, and stretches the shoulders, back, and neck. In *Yoga: The Path to Holistic Health*, Iyengar recommends staying in *adho mukha virasana* for approximately one minute.⁷² Menuhin instructs the student to move directly from *adho mukha virasana* to *ustrasana*, a chest-opening pose.⁷³ Iyengar explains that *ustrasana* is an easily accessible backbend for all fitness and flexibility levels and is particularly beneficial for elderly people. It stretches the entire spine and reverses the effects of hunched or drooping shoulders.⁷⁴

Menuhin uses a transition from crouching on the floor, to the forward bend *uttanasana* (see A.14), and finally to *tadasana* with the arms extended above the head as a way to warm up and stretch the entire body, position the shoulders and shoulder blades in the appropriate alignment, stretch the back and neck, and begin to connect the

⁷⁰ Iyengar, *Yoga: The Path to Holistic Health*, 68.

⁷¹ Iyengar, *Light on Yoga: Yoga Dipika* (New York: Schocken Books, 1979), 62.

⁷² Iyengar, *Yoga: The Path to Holistic Health*, 220-221.

⁷³ Menuhin, *Six Lessons with Yehudi Menuhin*, 19.

⁷⁴ Iyengar, *Light on Yoga*, 88.

breath with physical motion, an essential element of yoga.⁷⁵ He explains this transition and the coordination with the breath as follows:

Begin in a crouched position with the body relaxed, the head hanging forwards and the back of the hands resting on the floor... Take a few deep breaths and, on an exhalation straighten the legs to a taut stiffness, but keep the head hanging and the hands still touching the floor. Interlock your fingers, and put the joined hands behind the head where the neck and head join. Pull the head down. Drop the hands, take a few more breaths, and then, on an inhalation, reach a standing position... While inhaling again, bring the arms up from your sides to a horizontal position in front of you. Exhale, and stretch the arms forward and out from your sides to a horizontal position in front of you. Exhale and stretch the arms forward and out from the shoulders and shoulder blades. During the next inhalation, bring the arms to an outstretched position above your head while stretching up on your toes. Exhale and bring the palms together.⁷⁶

In *Six Lessons with Yehudi Menuhin*, Menuhin refers to the balancing exercises collectively as "Stork Poses" because each one involves standing on only one leg at a time. He includes *vrksasana* (see A.26), *natarajasana* (see A.23), and *utthita hasta padangusthasana*.⁷⁷ Menuhin recommends practicing each pose separately at first, and with practice changing smoothly between the three poses in one continuous movement.⁷⁸ Iyengar explains that balancing postures strengthen the legs, improve balance, and develop poise.⁷⁹ Strengthening the legs, improves balance and even distribution across the feet, accentuating the sensation of upward stretching from the to create a healthy foundation for playing the violin. Menuhin uses these traditional *asanas*

⁷⁵ Menuhin, *Six Lessons with Yehudi Menuhin*, 20.

⁷⁶ Ibid.

⁷⁷ This *asana* involves holding the foot and leg straight out directly in front of the body at ninety degrees and eventually resting the forehead on the raised leg.

⁷⁸ Menuhin, *Six Lessons with Yehudi Menuhin*, 22.

⁷⁹ Iyengar, *Light on Yoga*, 422.

as the foundation on which to add specific violin playing and technique. He recommends practicing the poses and movements in Lesson I daily in preparation for practice or performing.

The final portion of Lesson I, titled “Five Yoga Exercises” is Menuhin’s recommendation for cooling down and relieving bodily tension after playing the violin. The first recommendation is *tadasana paschima namaskarasana* (see A.4), a simple standing posture where the palms of the hands meet behind the body. It is particularly beneficial for the shoulders, arms, wrists, and hands. The second *asana* is *salamba sarvangasana*.⁸⁰ Iyengar states, “practicing this *asana* integrates your mind with your body and soul. Your brain feels bright yet calm, your body feels light and infused with radiance.”⁸¹ In a traditional yoga sequence, and as suggested by Menuhin, *halasana* follows *salamba sarvangasana*.⁸² Iyengar explains that *halasana* lengthens and improves the alignment of the spine, and relieves pain or cramps in the fingers, hands, wrists, elbows, and shoulders.⁸³ Menuhin offers many variations for this pose including the addition of a chair underneath the feet to ease discomfort, or holding the feet with the hands behind the head.⁸⁴ While *salamba sarvangasana* and *halasana* offer many benefits for violinists, the risk of injury is high due to the pressure on the neck and

⁸⁰ This *asana*, commonly referred to as shoulder stand, requires the individual to balance the weight of the body on the neck with the feet in the air. The hands support the back as the chest is pushed out and the chin presses against it. It is a challenging *asana* and when executed improperly can lead to neck strains and injury.

⁸¹ Iyengar, *Yoga: The Path to Holistic Health*, 144.

⁸² *Halasana*, or plough pose, also requires one to balance on the neck, this time with the feet touching the floor or a prop behind the head. It is an extension of *salamba sarvangasana*.

⁸³ Iyengar, *Yoga: The Path to Holistic Health*, 150.

⁸⁴ Menuhin, *Six Lessons with Yehudi Menuhin*, 30.

spine. Following these two poses, Menuhin recommends bending the back in the opposite direction and suggests *setu bandha sarvangasana* (see A.21) as an appropriate way to do this. In *setu bandha sarvangasana* the feet, head, and shoulders remain on the floor while the pelvis lifts upwards. Menuhin suggests holding on to the ankles with the hands to add an additional stretch and if possible lifting the entire body off the ground balancing only the hands and feet.⁸⁵ This is an intense stretch across the front of the body and builds strength in the shoulders and back. As Menuhin explains, it is possible to practice this *asana* at a variety of fitness levels and includes instructions for the basic body position, an intermediate version, and the most advanced interpretation. Finally, Menuhin recommends *savasana*, the traditional finishing *asana* (see A.29), as the ideal way to finish cooling down after playing the violin. “When this pose is completely relaxed, you can feel the pulse of the circulation of the blood...Breathing quietly, concentrate on releasing all tension limb by limb and joint by joint, feeling the heaviness of each as if sinking into the floor.”⁸⁶ Menuhin recommends if possible, staying in this pose for twenty minutes or more. *Savasana*, with shoulder blades positioned underneath the body, is an excellent posture to assume when focusing on the even inhalations and exhalations of the breath because the weight of the body is completely supported by the floor.

⁸⁵ Ibid.

⁸⁶ Ibid., 31.

Table 2.1 The Asanas Used in *Six Lessons with Yehudi Menuhin*

| Sanskrit | Translation | Benefits |
|--|--------------------------------|---|
| Pranayama | Breathing Exercise | |
| <i>Ujjayi Pranayama</i> | Breath of Victory | Relieves depression and boosts confidence, normalizes blood pressure, and invigorates the nervous system. |
| <i>Nadi Sodhana Pranayama</i> | Subtle Energy Cleansing Breath | The blood receives more oxygen. Nerves are calmed and purified. The mind is still and lucid, and the body is refreshed. |
| Asanas | Physical Posture | |
| <i>Tadasana</i> | Mountain Pose | Corrects bad posture and straightens the spine. Improves the alignment of the entire body and tones the gluteus muscles. Counteracts the degeneration of the spine, legs, and feet cause by <u>aging. Standing correctly improves proprioception.</u> |
| <i>Adho Mukha Virasana</i> | Downward Facing Hero Pose | Stretches and tones the spine, and relieves back and neck pain. Soothes the eyes and nerves, and calms the mind. It also relieves headaches and dizziness. |
| <i>Ustrasana</i> | Camel Pose | Helps correct posture, and improves circulation to the entire body. Tones the muscles of the back and spine and removes stiffness in the shoulders, back, and ankles. It is recommended especially for those who work in a sedentary position and must bend forward for long periods of time. |
| <i>Uttanasana</i> | Intense Forward-Bending Pose | Relieves mental and physical exhaustion, and slows the heartrate. Rejuvenates the spine, and calms the nerves. |
| <i>Vrkasana</i> | Tree Pose | Tones the legs and gives a sense of balance and poise. |
| <i>Natarajasana</i> | Lord of the Dance Pose | Develops poise and graceful carriage. Tones and strengthens the legs. It uses the full range of motion of the shoulder-blades, and expands the chest. |
| <i>Utthita Hasta Padangusthasana</i> | Extended Hand to Toe Pose | This pose makes the legs powerful and brings steadiness and poise. |
| <i>Tadasana Paschima Namaskarasana</i> | Reverse Prayer Pose | Reduces depression and increases flexibility of the upper body, arms, elbows, wrists, and shoulders. |
| <i>Salamba Sarvangasana</i> | Shoulder Stand | Alleviates hypertension, and throat ailments. Relieves insomnia and breathlessness. Calms the nerves. Integrates the mind with the body. Allows fresh, healthy blood to circulate around neck and chest. |
| <i>Halasana</i> | Plough Pose | Relieves fatigue and boosts energy. Alleviates hypertension. Improves digestion. Increases self-confidence and energy. Restores mental calm and clarity, and alleviates stress and strain by resting <u>and relaxing the brain and eyes.</u> |
| <i>Setu Bandha Sarvangasana</i> | Bridge Pose | Relieves backaches, strengthens the spine, and neck strain. Soothes the mind and expands the chest. |
| <i>Savasana</i> | Corpse Pose | Removes physical and mental fatigue. Relaxes and soothes the sympathetic nervous system and helps relieve stress-related headaches. Helps combat sleep disorders. |

The Compleat Violinist

The Compleat Violinist, published in 1986, explains some of the exercises and experiences that influenced Menuhin's musical life. Each chapter discusses a variety of musical topics, and a set of exercises. The exercises begin with warming up the body away from the violin, and in the final chapter the movements include the violin. The central principle guiding Menuhin's violin playing and teaching was a striving for equilibrium. He states, "each part of the body moves best when it moves in harmony with other bones, muscles, limbs."⁸⁷ One pursues equilibrium in search of refinement and ultimate freedom of motion so that there is "a better balance and communication between the musician and his instrument, the musician and his audience, the musician and his music."⁸⁸ The exercises and *asanas* in this book improve awareness so that ultimately the music becomes a carrier of the musician's inner harmony.⁸⁹ Menuhin evolved many of these exercises over several decades, out of a constant endeavor to keep his body in a state of mobility and physical fitness. He reiterates that physical fitness plays a significant role in improving awareness, and leads to better performances and more authentic musicianship. He cautions all who attempt the more rigorous yoga-based exercises for the first time to be gentle and on no account force the body into some of the poses.⁹⁰ For a detailed list of the *asanas* mentioned in this book and their purported benefits, please refer to Table 2.2 on page thirty-one.

⁸⁷ Yehudi Menuhin, *The Compleat Violinist* (New York: Summit Books, 1986), 2.

⁸⁸ *Ibid.*, 3.

⁸⁹ *Ibid.*, 6.

⁹⁰ *Ibid.*, 1-2.

Menuhin begins with a detailed explanation of the benefits of breath control exercises and their importance when trying to relax. He explains that they can be practiced in a variety of postures, in bed, lying down, standing up, or in an upright seated position but stresses the importance of keeping the spine supported by the abdominal muscles for optimal breathing and highlights *nadi sodhana pranayama* (see A.2) as the first breathing exercise of the book. Menuhin explains that the breath should form the basis of all exercising and that good posture is essential for proper breathing. When one practices *nadi sodhana pranayama* regularly they will find the body more fatigue resistant, alive, and filled with a sensation of lightness and self-awareness.⁹¹

The first posture Menuhin introduces is a modified version of *parivrtta janu sirsasana*. This seated pose requires the torso to twist and rotate upwards and simultaneously stretches the toes, feet, ankles, legs, groin, sides, shoulders, and neck.⁹² Directly following this, Menuhin describes *janu sirsasana*, a seated forward fold with one leg extended in front of the body, and the other bent at the side. Both *parivrtta janu sirsasana* and *janu sirsasana* stretch the entire back of the body including the legs. The rotation in *parivrtta janu sirsasana* expands the ribs and intercostal muscles, while the forward bend of *janu sirsasana* amplifies the stretch along the spine. The first posture Menuhin describes in chapter 2 is *uttanasana* (see A.14), an intense forward bend that stretches the back of the legs and spine. Iyengar explains that *uttanasana* soothes the mind and brings a sense of calm.⁹³ Menuhin also includes an exercise titled “Learning

⁹¹ Ibid., 23.

⁹² Ibid., 19.

⁹³ Iyengar, *Light on Yoga*, 93.

to Walk” which focuses on standing correctly, with good balance. He explains that “it is crucial for violinists to know how to stand correctly – well balanced, with the head correctly held...Harmony and balance are a matter of the parts of the body working interdependently...”⁹⁴ Menuhin highlights proper standing posture in both texts because it is important to him, and essential to Iyengar Yoga. Although violinists cannot leave their arms in the traditional expression of *tadasana*,⁹⁵ the concept of rooting through the soles of the feet and simultaneously stretching upward from the feet through the crown of the head creates a state of equilibrium that also allows dynamic motion. In this way, *tadasana* is an ideal posture for violinists because it resists the collapsing tendency of the joints under the pressure of gravity. The “Press Up and Variations” exercise described at the end of chapter two is a transition to *adho mukha svanasana* (see A.22), from *chaturanga dandasana*.⁹⁶ Menuhin recommends holding *adho mukha svanasana* for several breath cycles and includes hand and wrist variations to be used cautiously and gently. He posits that the changes of hand and finger position strengthen the wrists and fingers, which proves helpful for violinists.⁹⁷ *Adho mukha svanasana* offers a multitude of benefits and simultaneously stretches and strengthens several parts of the body including the shoulders, back, arm, legs, and feet. It is an excellent way to relieve tension or warm up before or after playing the violin.

⁹⁴ Yehudi Menuhin, *The Compleat Violinist* 40.

⁹⁵ The traditional expression of Tadasana calls for the fingertips to be pointed at the ground as depicted in Appendix A, image A.3.

⁹⁶ A plank position with the elbows held close to the body.

⁹⁷ Menuhin, *The Compleat Violinist*, 42.

Finally, Menuhin explains that “there is great benefit to be derived from exercises in which the body is turned upside down: the heart is relieved of its usual workload...[and] the veins and valves in the legs are no longer under strain. The brain receives refreshment from a full flow of blood.”⁹⁸ He cautions readers to seek qualified supervision and help when attempting *salamba sarvangasana* and *halasana* and explains that *halasana* is an extension of *salamba sarvangasana* and if practiced correctly, with the base of the spine continually stretching upwards, with the legs straight, one can feel the spine lengthen.⁹⁹ Menuhin recommends *sirsasana* as a way to intensify the benefits of *salamba sarvangasana* and *halasana*.¹⁰⁰ When practicing this pose, he encourages readers to feel most of the weight in the forearms rather than the head.¹⁰¹ *Salamba sarvangasana*, *halasana*, and *sirsasana* require an enormous amount of pressure on the neck and spine and are not suitable without qualified supervision and assistance for those lacking physical conditioning or who are unfamiliar with these *asanas*. Menuhin acknowledges that the suggestions in this book are drawn from his years of experience, and while he promotes the benefits of these postures many are not suitable without training and regular practice with supervision.

⁹⁸ Ibid., 46.

⁹⁹ Menuhin, *The Compleat Violinist*, 49.

¹⁰⁰ *Sirsasana* is a headstand with the feet in the air. The only part of the body touching the ground is the crown of the head, and the hands or forearms.

¹⁰¹ Menuhin, *The Compleat Violinist*, 50-52.

Table 2.2 The Asanas Used in *The Compleat Violinist*

| Sanskrit | Translation | Benefits |
|--|--------------------------------|---|
| Pranayama | Breathing Exercise | |
| <i>Nadi Sodhana Pranayama</i> | Subtle Energy Cleansing Breath | The blood receives more oxygen. Nerves are calmed and purified. The mind is still and lucid, and the body is |
| Asana | Physical Posture | |
| <i>Parivrtta Janu Sirsasana</i> | Revolved Head to Knee Pose | Stimulates blood flow in the spine and relieves backache. Aids digestion and stretches the abdominal muscles and organs. |
| <i>Uttanasana</i> | Intense Forward-Bending Pose | Relieves mental and physical exhaustion, and slows the heartrate. Rejuvenates the spine, and calms the nerves. |
| <i>Adho Mukha Svanasana</i> | Downward Facing Dog Pose | Relieves pain and stiffness in the heels, strengthens the ankles and tones. Removes stiffness in the upper back, strengthen the core and slows the heartrate. It calms the brain, and stimulates the nerves, relieving fatigue. |
| <i>Chaturanga Dandasana</i> | Four-Limbed Staff Pose | Strengthens the arms and wrists. Tones the core and develops mobility in arms. |
| <i>Salamba Sarvangasana</i> | Shoulder Stand | Alleviates hypertension, and throat ailments. Relieves insomnia and breathlessness. Calms the nerves. Integrates the mind with the body. Allows fresh, healthy blood to circulate around neck and chest. |
| <i>Halasana</i> | Plough Pose | Relieves fatigue and boosts energy. Alleviates hypertension. Improves digestion. Increases self-confidence and energy. Restores mental calm and clarity, and alleviates stress and strain by resting and relaxing the brain and eyes. |
| <i>Salamba Sirsasana</i> | Headstand | Gives physical and mental poise. Rejuvenates the brain with healthy blood flow, bringing clarity of mind. It develops the body, disciplines the mind. |
| <i>Tadasana Gomukhasana</i> | Cow-Faced Pose Arms | Boosts confidence, helps treat depression. Opens the chest and improves breathing by activating the muscles of the shoulders and back. Relieves arthritis in the shoulders, elbows, wrists, and fingers. |
| <i>Tadasana Paschima Namaskarasana</i> | Reverse Prayer Hands | Reduces depression and increases flexibility of the upper body, arms, elbows, wrists, and shoulders. |

Summary

The collaboration between Yehudi Menuhin and B.K.S. Iyengar was the first example of a musician working with a yoga instructor and the first attempt to incorporate yoga *asanas* and *pranayama* into musical training. Menuhin's attempt to use yoga was rudimentary but inspired many others. This preliminary use of yoga in violin teaching and preparation paved the way for a more thorough study of the benefits of yoga. The following chapter explores how other musicians incorporate yoga into their teaching and practice, approach to injury prevention, therapy for pain, and musicianship.

Chapter 3: How Musicians Use Yoga

Existing Applications of Yoga

Many musicians are aware of the benefits of yoga, and use it to heal the body and prepare for the demands of the music profession. Some musicians publish articles and books, offer workshops and classes, and pursue yoga instructor certification. Many use yoga to reduce anxiety, ease discomfort, enhance focus, and stretch tight muscles. Eleanor Winding wrote one of the earliest books about yoga for musicians. Published in 1982, *Yoga for Musicians and Other Special People* claims that “Yogis know that the mind controls the body, health, nerves, sleep, energy, everything; but, *you* have to learn to control the mind.”¹⁰² Winding organized her book by instrument, outlining several *asanas* and exercises that best serve the particular needs of each instrumentalist. Violinist Elena Urioste maintains a page of her professional website dedicated to yoga and explains that all musicians would benefit from a regular yoga practice for postural awareness, breath control, mental strength, and clarity.¹⁰³ Urioste is the co-founder, along with violinist Melissa White, of *Intermission Sessions and Retreat*, a program that integrates yoga with violin in equal parts. They promote yoga because it enhances focus and concentration, and makes muscles more malleable, resulting in fewer repetitions when practicing.¹⁰⁴

¹⁰² Eleanor Winding, *Yoga for Musicians and Other Special People* (Sherman Oaks: Alfred Publishing Co., 1982), 3.

¹⁰³ Elena Urioste, “Yoga,” *Elena Urioste*, accessed February 12, 2017. <http://elenaUrioste.com/category/yoga/>.

¹⁰⁴ Intermission Sessions and Retreat. "Intermission: An Introduction." Filmed [February 2017] YouTube video, 5:35. Posted [February 9, 2017], <https://www.youtube.com/watch?v=JRcGP8NSIRU>.

The need for preventative measures and therapeutic exercises to ensure high caliber, and pain free performances is a growing concern for musicians. In her dissertation, “Violin and Yoga: Benefits of Yoga for Violinists” Malgorzata Leska writes, “Yoga improves musicians’ chances of avoiding and recovering from injury, developing optimal conditioning of the body, and fulfilling potential as performers and teachers. Thus the benefits of Yoga may be viewed from two different perspectives; as injury prevention and the enhancement of performance skills.”¹⁰⁵ She explains that yoga is unlike any other activity because it improves mental and physical faculties simultaneously.¹⁰⁶ Leska’s dissertation, completed in 2010, combines her study of Power Yoga, anatomy, and violin playing in an attempt to apply yoga directly to the needs of violinists. The recommendations are separated by area of the body and other than her warm up routine of *surya namaskara* she does not combine *asanas* to suit the needs of different environments or reference existing applications of yoga by musicians. Several of her recommendations are advanced *asanas* that are difficult to perform for musicians who lack experience with yoga or physical fitness. Performing these *asanas* can cause pain and injury. Power Yoga is a form of Vinyasa Yoga that derives from Ashtanga Yoga. It is vigorous and athletic and not intended to be therapeutic.

In the article, “Injury Prevention and Healing Through Yoga,” violinist Lauryn Shapter writes that yoga's union of the mental, spiritual, and physical, helps people manage stress, improve concentration, and create balance. She notes that musicians

¹⁰⁵ Malgorzata Leska, “Violin and Yoga: Benefits of Yoga for Violinists” (DMA diss., The University of Alabama, 2010), 103.

¹⁰⁶ Ibid.

often suffer from playing-related injuries and stress-related diseases and speculates that this is due to the combination of unusual working hours, hectic schedules, and the mental and physical demands of performance. She believes that yoga is the best way to relieve immediate and accumulated stress.¹⁰⁷ Shapter credits her yoga practice with the ability to return to her music career after suffering debilitating wrist pain. She believes the real power of yoga "is its ability to help prevent injury in the first place, by offering counter movements that relieve current physical strain and years of accumulated repetitive motions."¹⁰⁸ Madeline Bruser, author of *The Art of Practicing*, lists yoga as a productive way to move the body because it provides additional benefits for musicians who are searching for ways to heal or avoid injuries.

Yoga, properly taught, provides both a workout and a release of tension. Teachers of Iyengar yoga, in particular, adapt yoga poses to the needs of individual students. If you are stiff, you become more flexible; if you lack strength, you learn to balance flexibility with strength. This method is especially helpful if you have an injury because it trains you to use your muscles to support your joints, helping you to avoid pain and to recover from injury.¹⁰⁹

Leska's research agrees with this point. She emphasizes yoga's effectiveness for musicians who want to stay healthy and for those who need help with existing problems and injuries. Yoga cultivates the body awareness necessary to correct faulty positioning while practicing or performing, and provides a method of obtaining optimally aligned posture.¹¹⁰ Mia Olson, certified Kripalu Yoga instructor and author of *Musician's Yoga*,

¹⁰⁷ Lauryn Shapter, "Injury Prevention and Healing Through Yoga," in *Healthy String Playing: Physical Wellness Tips from the Pages of Strings Magazine* (Milwaukee, String Letter Publishing, 2007), 145.

¹⁰⁸ Ibid.

¹⁰⁹ Madeline Bruser, *The Art of Practicing: A Guide to Making Music from the Heart* (New York: Bell Tower, 1997), 43.

¹¹⁰ Leska, "Violin and Yoga," 21.

explains that yoga is a tool that develops focus and concentration and through regular practice, one can use yoga to control many performance variables that often include tension and pain.¹¹¹

Many of the musicians currently promoting yoga's benefits agree with the sentiments put forth by Menuhin and Iyengar regarding posture and alignment. Olson explains, "In order to build a strong body for your instrument, it is necessary to start with building your foundation, which is good posture and proper body alignment."¹¹² By practicing yoga one develops an awareness of how to carry the body throughout the day, and in the practice room.¹¹³ Janet Horvath, author of *Playing (less) Hurt*, recommends yoga because certain poses improve posture and breathing, facilitate the rejuvenation of joints, and increase flexibility. Horvath also asserts that yoga can be practiced by anyone, regardless of age or fitness level because it teaches how to stretch with good alignment and safe movement patterns. Yoga keeps the back strong and flexible, which can protect musicians from potential injury.¹¹⁴

Overuse symptoms are a common problem for musicians, especially in the hands, wrists, arms, and shoulders. Olson believes that developing the mind-body connection helps prevent and possibly eliminates overuse injuries completely.¹¹⁵ In the article "Preventing Overuse Injuries: The Power Is in Your Hands," Darcy Lewis posits

¹¹¹ Mia Olson, *Musician's Yoga: A Guide to Practice, Performance, and Inspiration* (Boston: Berklee Press, 2009), 5.

¹¹² *Ibid.*, 41.

¹¹³ *Ibid.*

¹¹⁴ Janet Horvath, *Playing (less) Hurt: An Injury Prevention Guide for Musicians* (New York: Hal Leonard Books, 2010), 114.

¹¹⁵ Olson, *Musician's Yoga*, 52.

that most overuse injuries can be resolved by appropriate exercises and correct posture. She recommends yoga as one way for string players to include exercises that stretch and strengthen the body into their daily routine.¹¹⁶

How Musicians Use Hatha Yoga

Hatha Yoga consists of various *asanas*, coordinated with *pranayama*, and meditation. Yoga masters understand the intimate relationship between the breath and state of mind, and thus *pranayama* is an integral part of yoga. Leska emphasizes that the regular practice of *asanas* also has positive psychological effects that include increased somatic awareness, and improved memory, mental focus, and mood.¹¹⁷ Olson considers the benefits of yoga to be applicable at any time of the day or place. They can be used in the green room before a performance, or during a rehearsal break as a quick way to release tension.¹¹⁸

Shapter organizes yoga *asanas* into several basic categories: standing poses, forward bends, backbends, inverted poses, and arm balances. She explains that while each type of pose offers individual benefits, together they offer a full body workout:

Standing poses are the foundation of a yoga practice. Forward bends help lengthen the spine and stretch the legs, while backbends counteract the effects of poor posture and hunching. Inverted poses help improve circulation and give relief to the legs after long periods of standing, and arm balances are superb for

¹¹⁶ Darcy Lewis, "Preventing Overuse Injuries: The Power Is in Your Hands" in *Healthy String Playing: Physical Wellness Tips from the Pages of Strings Magazine* (Milwaukee: String Letter Publishing, 2007), 106.

¹¹⁷ Leska, "Violin and Yoga," 6-7.

¹¹⁸ Olson, *Musician's Yoga*, 66-67.

upper body conditioning.¹¹⁹

This chapter outlines how musicians employ yoga *asanas* and *pranayama* exercises and the specific reasons and benefits of each posture. In addition to using Lauren Shapter's categorization of poses, breathing exercises, balancing postures, yoga routines, and resting postures are listed as separate categories. Table 3.1, located at the end of this chapter summarizes the *asanas*, *pranayama* exercises, and source of recommendations for a clear overview of the information found in this chapter.

Breathing

Pranayama

The breath is a central element of yoga. Olson warns that without focusing on the breath, one is just stretching and not practicing yoga.¹²⁰ Leska explains that traditionally, Hatha Yoga was a way to prepare the body and mind for deep concentration and meditation. *Pranayama* was practiced to free the mind from distraction. When combined, *asana* and *pranayama* cultivate the ability to quiet the mind and improve focus and mental clarity.¹²¹ Additionally, Olson recommends employing *pranayama* exercises to energize the mind for a practice session, or calm the

¹¹⁹ Shapter, "Injury Prevention and Healing Through Yoga," 145.

¹²⁰ Olson, *Musician's Yoga*, 10.

¹²¹ Leska, "Violin and Yoga," 91-93.

nerves before a performance.¹²² She notes that focusing on the exhalation releases tension in the body and explains that some *pranayama* techniques are particularly helpful when managing performance anxiety immediately before a concert.¹²³

Olson recommends beginning all music and yoga practice sessions with a brief centering meditation, that brings the attention to the present moment by focusing on the breath.¹²⁴ Lee Soen uses a basic *pranayama* exercise to help students focus at the beginning of a lesson, before playing the violin. She also notes the impact that deep breathing can have before a performance, or even when on the stage, "For musicians, deep breathing before and during performance calms the nerves, enabling them to concentrate and immerse themselves in the music."¹²⁵

Ujjayi Pranayama

Lee Soen's introductory breathing exercise is *ujjayi pranayama* (see A.1.). She incorporates breathing exercises into lessons to encourage her students to become aware of the space between the inhalation and exhalation. This attention to the full cycle of a breath forces one to breathe more slowly, encouraging "correct" breathing. She notes that slow, deep breaths have been shown to reduce hypertension, and lower blood pressure when practiced regularly.¹²⁶ Olson explains that the ocean-like sound of *ujjayi*

¹²² Olson, *Musician's Yoga*, 5.

¹²³ *Ibid.*, 10.

¹²⁴ *Ibid.*, 108.

¹²⁵ Lee Soen, "Yoga Within the Music Studio," 37.

¹²⁶ *Ibid.*

pranayama gives the mind a distinct sound to focus on during meditation and *asana* practice. The ocean sound of *ujjayi pranayama*, created by lightly constricting the muscles at the back of the throat, is very calming, relaxing, and centering.¹²⁷

Bruser also uses *ujjayi pranayama* to regulate breathing and maintain rhythmic, steady, and natural inhalations and exhalations. She claims that focusing on the breath slows the mind and "because this practice allows us to breathe more easily, it relaxes the body as well as the mind. As more oxygen enters the cells, the whole system breathes more easily and lets go."¹²⁸

Nadi Shodhana

Olson explains that *nadi shodhana* (see A.2.) is one of the most relaxing and calming ways to breathe because it helps balance the right and left hemispheres of the brain, creating a sense of peace and centeredness. She recommends practicing this breathing technique directly before walking on stage or before entering any stressful environment.¹²⁹ Olson may be implying that because this exercise is soothing, it makes one feel like the hemispheres of the brain are balanced which allows calm, clear thoughts and movements to prevail in stressful situations.

¹²⁷ Olson, *Musician's Yoga*, 15.

¹²⁸ Bruser, *The Art of Practicing*, 48.

¹²⁹ Olson, *Musician's Yoga*, 16.

Standing

Tadasana

Shapter explains that *tadasana* (see A.3.) is a seemingly simple pose that teaches correct alignment of the spine and pelvis, and even distribution of weight across the feet. When practiced regularly, it cultivates postural awareness in every activity. Good posture prevents the back muscles from straining and allows the skeletal system to support the body properly.¹³⁰ Lee Soen explains *tadasana* as a firm foundation with energy that rises through the body, "the whole body is rooted to the ground while at the same time the crown of the head is growing upwards."¹³¹ She adds neck movements to *tadasana*, moving the head side to side, to release the muscles of the neck and shoulders.¹³²

Mia Olson also emphasizes the functional significance of proper alignment in *tadasana* for musicians; "Proper alignment allows room for full breath and allows all of the internal organs to be properly aligned and open. It also allows the body to move freely and with ease because if you hunch and round the back, caving the chest in, you cannot take a full, deep, breath."¹³³ In *The Art of Practicing*, Madeline Bruser states, "Good posture allows the limbs and breathing muscles to be free and flexible. When the torso is stable, it functions like the trunk of a tree: The limbs move freely without

¹³⁰ Shapter, "Injury Prevention and Healing Through Yoga," 142.

¹³¹ Lee Soen, "Yoga Within the Music Studio," 38.

¹³² Ibid.

¹³³ Olson, *Musician's Yoga*, 46-47.

interfering with the balance of the whole organism.”¹³⁴ She explains that this is inherently important for all musicians due to the amount of time spent either seated or standing while supporting their instrument.

Uttihita Trikonasana, Uttihita Parsvakonasana, Virabhadrasana I and II

Shapter promotes the practice of *uttihita trikonasana* (see A.7.), *uttihita parsvakonasana* (see A.8.), and *virabhadrasana* I and II (see A.9 and A.10, respectively) because these *asanas* strengthen and stretch the lower body and improve circulation throughout the entire body.¹³⁵ They also create openness and expansiveness in the chest, offering immediate relief from stiffness in the shoulders, neck, and back.¹³⁶ Olson recommends practicing *uttihita trikonasana* because it builds flexibility in the torso and hips, and helps to elongate the spine.¹³⁷ She also says that practicing *virabhadrasana* I and II strengthens the legs and increases flexibility in the lower body, helping one feel more grounded and centered, and strengthening the mind-body connection.¹³⁸ Olson and Shapter recommend combining *tadasana*, *virabhadrasana* I, *virabhadrasana* II, and *uttihita parsvakonasana*, as a way to maintain healthy circulation, warm up the whole body, and strengthen the legs. These poses offer relief to the whole body and are fundamental *asanas* in Iyengar Yoga.

¹³⁴ Bruser, *The Art of Practicing*, 74.

¹³⁵ Shapter, “Injury Prevention and Healing Through Yoga,” 143.

¹³⁶ *Ibid.*, 144.

¹³⁷ Olson, *Musician's Yoga*, 88.

¹³⁸ *Ibid.*, 82.

Tadasana Gomukhasana, Tadasana Garudasana, Paschima Namaskarasana

In *Musician's Yoga*, Olson recommends *tadasana gomukhasana* (see A.5.) and *tadasana garudasana* (see A.6.) because they offer excellent relief for the arms and shoulders, and build strength and flexibility in the upper back, neck, shoulders, arms, and hands.¹³⁹ *Tadasana gomukhasana* is a tricep stretch that involves clasping the hands behind the back, one arm reaches over the shoulder, and the other arm rotates from below the shoulder and reaches up towards the head.

Leska and Olson both recommend *tadasana garudasana* because it stretches the area between the shoulder blades. Leska also notes that it removes stiffness in the shoulders.¹⁴⁰ Bruser also recommends *tadasana garudasana* and suggests that it is beneficial to do this asana on practice breaks if one feels stiff or tight.¹⁴¹

Olson considers *paschima namaskarasana* (see A.4.) one of the best stretches to open up the front of the body and train the shoulders to draw back and not slump forward. It is a complimentary arm position to *tadasana garudasana*. To extend this posture for an additional stretch, she recommends coming into a forward bend with the head fully relaxed towards the floor.¹⁴² These three *asanas* target the arms and shoulders, prime sites of pain and discomfort for violinists. They can also be practiced in a seated position, making them ideal for practice during rehearsal breaks.

¹³⁹ Olson, *Musician's Yoga*, 55.

¹⁴⁰ Leska, "Violin and Yoga," 62.

¹⁴¹ Bruser, *The Art of Practicing*, 40-42.

¹⁴² Olson, *Musician's Yoga*, 60-61.

Forward Bends

Dandasana

Dandasana (see A.12.) is the fundamental seated posture in Iyengar Yoga. Just as all *asanas* are variations of *tadasana*, all seated postures are variations of *dandasana*. It requires the same attention to alignment, rooting through the pelvis instead of the feet, while extending upwards through the crown of the head. Olson posits that it is the primary sitting position for all seated forward bends and explains that it can be challenging if the hamstrings are tight. To intensify this pose, she recommends a variation that involves rotating the pelvis forward and extending the arms overhead, palms facing each other, which lengthens and stretches the sides of the torso.¹⁴³ Bruser recommends several variations of *dandasana* including *baddha konasana*, *upavistha konasana*, and *paschimottanasana* as ways to warm up the body, stretch the legs and back, and connect the breath with movement.¹⁴⁴

Marichyasana

Leska encourages the regular practice of *marichyasana*, because it increases energy levels, tones and massages the abdominal organs, alleviates back pain, provides a deeply relaxing massage to the shoulders, arms, and hands, and improves the

¹⁴³ Ibid., 77-79.

¹⁴⁴ Bruser, *The Art of Practicing*, 33.

flexibility of the hands and fingers.¹⁴⁵ *Marichyasana* is a seated posture with one leg extended in front of the body and the other bent towards the chest. There are numerous variations of this *asana*, including clasping the hands around the bent knee and turning the torso in the opposite direction, or clasping the hands around the bent knee and extending the torso forward, placing the forehead on the extended leg. Clasping the hands around the knee requires shoulder flexibility. The use of a yoga strap can help one reach around the body.

Uttanasana, Padangusthasana, Supta Padangusthasana

Uttanasana (see A.14.) is an intense standing forward fold. The goal is to touch the forehead to the legs, with the hands placed on the ground behind the feet. The head hangs loosely, to release any tension in the back of the neck. Brusser and Olson both use *uttanasana* as a way to stretch the entire back of the body.¹⁴⁶ Leska includes *padangusthasana* in her recommendations for standing postures because although *padangusthasana*, and *uttanasana* seem to focus on the lower body and specifically the hips and legs, they also offer great release for the upper arms, shoulders, and neck.¹⁴⁷ In Iyengar Yoga, *padangusthasana* is similar to *uttanasana*. It is a standing forward fold that involves grasping the toes and pulling the upper body down, towards the legs. Some yoga traditions execute *padangusthasana* as a balancing posture, standing on one

¹⁴⁵ Leska, "Violin and Yoga," 86.

¹⁴⁶ Olson, *Musician's Yoga*, 74.

¹⁴⁷ Leska, "Violin and Yoga," 64.

leg and raising the other to a ninety-degree angle, clasping the big toe of the raised leg with the fingers, and lowering the torso to meet it.

Leska practices *supta padangusthasana* when warming up to play the violin because it promotes proper development of the legs by forcing blood to circulate through the legs and hips, rejuvenates the nerves, and removes stiffness. It also helps prevent and treat sciatica, which is important for violinists because of the tendency to sit or stand for many hours, limiting the circulation in the legs.¹⁴⁸ This variation of *padangusthasana* more closely resembles the balancing version mentioned above, but removes the difficulty of balancing by using the floor to support the back, while still strengthening and stretching the legs. Horvath also uses this pose because it stretches the hamstrings and lower back. She encourages the use of a belt or strap to reach the extended leg, and bending the knee if one is unable to grasp the foot while keeping the raised leg straight.¹⁴⁹

Backbends

Urdhva Mukha Svanasana

Horvath includes *urdhva mukha svanasana* (see A.18.) as a way to relieve tension in the back. She calls it a back extension, and prescribes it specifically for

¹⁴⁸ Ibid., 38.

¹⁴⁹ Horvath, *Playing (less) Hurt*, 119.

lordosis but discourages the continued practice of this *asana* if one feels any pain.¹⁵⁰ Shapter recommends *urdhva mukha svanasana* because it is a mild backbend that opens the chest, strengthens the spine, and relieves back strain. It also counteracts the effects of long practice sessions by stretching the arms, legs, back, and neck.¹⁵¹ One must be wary when performing this *asana*, to keep the shoulder blades pulled back, and the chest broad and open so as not to injure the shoulder girdle or incur undue tension in the upper trapezius muscles while executing this pose.

Ardha Salabasana

Ardha Salabasana is a backbend that requires the practitioner to lie face down on the floor. In “Intermission: An Introduction,” Melissa White and Elena Urioste encourage practicing this *asana* regularly, raising one leg at a time, and then both legs together but warn that it may feel uncomfortable in the elbows. They explain that an influx of blood flushes throughout the arms and irons out the elbows, relieving many of the aches and tension violinists feel in the upper body.¹⁵² While this pose offers many benefits for violinists, it is awkward and cumbersome, which limits the practicality of this pose in many environments.

¹⁵⁰ Ibid., 120.

¹⁵¹ Shapter, “Injury Prevention and Healing Through Yoga,” 144.

¹⁵² Intermission Sessions and Retreat. “Intermission: An Introduction,” 3:25.

Inversions

Adho Mukha Svanasana

According to Patricia Walden, vice president of the B.K.S. Iyengar Regional Association of New England, *adho mukha svanasana* (see A.22.), is one pose that should be practiced every day because it offers many benefits for the entire body.¹⁵³ Horvath recommends practicing *adho mukha svanasana* because it relieves stress, stiffness, and tension in the back, shoulders, and hands.¹⁵⁴ Shapter recommends practicing *adho mukha svanasana* on rehearsal breaks and at the end of a practice session because it is an excellent way to relieve stiffness in the shoulder blade region. She explains that in this *asana*, the body creates an inverted V, with the torso and arms in line, and the hips raised above the head. The fingers are stretched wide open and placed flat on the floor, creating a much-needed counter effect to the left-hand finger action necessary for playing the violin.¹⁵⁵ *Adho mukha svanasana* with proper shoulder rotation and positioning is an excellent pose for violinists to practice regularly. It offers relief in the hips after sitting or standing for extended periods of time, strengthens the back and shoulders, and when performed using *ujjayi pranayama*, can energize the nervous system.

¹⁵³ Shapter, "Injury Prevention and Healing Through Yoga," 144.

¹⁵⁴ Horvath, *Playing (less) Hurt*, 114.

¹⁵⁵ Shapter, "Injury Prevention and Healing Through Yoga," 144.

Halasana

Madeline Bruser suggests practicing *halasana* regularly and encourages supporting the feet with props if they cannot reach the floor comfortably. Adding support underneath the feet or legs and neck in this pose can be very therapeutic.¹⁵⁶ She is the only author besides Menuhin who recommends this pose. *Halasana* is demanding and requires flexibility in the spine and legs, and caution when attempting without qualified supervision.

Adho Mukha Virasana

Horvath and Olson both recommend *adho mukha virasana* (see A.27.). Olson explains that it helps rejuvenate the entire body and is particularly useful in releasing tension in the back and spine. She recommends it to relieve pressure and stress in the lower back and encourages readers to support their seat with a bolster, blocks, or other prop for comfort and relaxation.¹⁵⁷ Leska also recommends *adho mukha virasana* as a way to rest and recover between more strenuous *asanas* or activities.¹⁵⁸ *Adho mukha virasana* is a calming pose. The knees are bent, the forehead rests on the ground or a prop, and the arms extend next to the head. Spending several breaths in this position relaxes the mind and gently stretches the back and shoulders.

¹⁵⁶ Bruser, *The Art of Practicing*, 35.

¹⁵⁷ Olson, *Musician's Yoga*, 75.

¹⁵⁸ Leska, "Violin and Yoga," 52.

Arm Balances

Adho Mukha Vrksasana

Robert Boustany, founder of Pralaya Yoga,¹⁵⁹ explained to Dr. Leska in an interview that practicing *adho mukha vrksasana* improves general body posture. Boustany suggests executing this pose close to the wall, keeping the index fingers parallel to each other, and the tips of the middle fingers lightly touching the wall.¹⁶⁰ Leska writes, "this pose is advanced and challenging, so caution while attempting to perform it is advised...this method of working on posture also allows the spine to release and improves the circulation throughout the entire body."¹⁶¹ Leska also recommends *adho mukha vrksasana*, when addressing issues with the arms, wrists, hands, and chest because it builds strength and balance, by developing the chest and strengthening the whole upper body.¹⁶² Due to the advanced nature of this pose, it is not suitable for all violinists, particularly those who feel infirm due to age or physical weakness. Other *asanas*, such as *adho mukha svanasana*, increase strength in the same areas without the potential for falling or injury and require less experience with inverting the body.

¹⁵⁹ According to www.pralayayoga.com Pralaya yoga is a research-based system of yoga created to support joint longevity, and increase energy levels by maximizing the activation of muscles, organs, and energy systems in the body.

¹⁶⁰ Leska, "Violin and Yoga," 52.

¹⁶¹ *Ibid.*, 33.

¹⁶² *Ibid.*, 88.

Balancing

Vrksasana, Virabhadrasana III, Garudasana

Balancing *asanas* help increase focus and concentration. Olson asserts that balancing poses are the most important *asanas* to practice because “they immediately bring you in touch with the mind-body connection. These poses are similar to being on stage. You can see right away what the mind chatter is all about when you come into the pose or when you go on stage.”¹⁶³ She recommends focusing on the breath while practicing *vrksasana* (see A.26.), *virabhadrasana III* (see A. 25.), and *garudasana* (see A.24). Lee Soen also believes that practicing balancing poses can help cultivate concentration and she encourages her students to practice *vrksasana* with arms extended to the sides or raised above the head. She explains that balancing poses are a challenge for both the body and mind and require "concentration and awareness of the whole body as it strives to achieve the exact musculature to keep the body motionless."¹⁶⁴

Natarajasana

Melissa White and Elena Urioste recommend *natarajasana* (see A.23.) because it simultaneously stretches the chest, builds strength in the legs, enhances focus, and

¹⁶³ Olson, *Musician's Yoga*, 92.

¹⁶⁴ Lee Soen, “Yoga Within the Music Studio,” 40.

aligns the shoulder blades correctly on the back.¹⁶⁵ This balancing pose achieves multiple benefits simultaneously: it opens the chest, stretches the shoulders, improves balance, and strengthens the legs. It serves as a way to focus on the breath while also enhancing flexibility and strength and is easily performed in a variety of settings.

Yoga Routine

Bharmanasana, Marjaryasana, Bitilasana

Instrumental musicians often sit to rehearse and practice. It is important to maintain a healthy and flexible spine. Mia Olson notes that due to playing an instrument in a seated position, many musicians develop lower back pain and strengthening the core can help relieve lower back pain. She recommends the following set of *asanas* to warm up the body, increase blood flow, and invigorate the mind and body. Beginning in *bharmanasana* where the spine is neutral and the weight of the body is evenly distributed across both hands and knees, move to *marjaryasana* while exhaling. *Marjaryasana* stretches the muscles between the shoulder blades. It requires the thoracic spine to curve away from the floor with the neck and head kept relaxed and pointed downwards. After a few breaths, return to *bharmanasana* and while inhaling, proceed to *bitilasana*. *Bitilasana* rounds the spine in the opposite direction, the head extends away from the floor and the curve of the lumbar spine is exaggerated. The move from *bharmanasana* to *marjaryasana* and *bitilasana* is a transition from neutral

¹⁶⁵ Intermission Sessions and Retreat. "Intermission: An Introduction," 2:36.

spine to stretching the back, to stretching the front of the torso respectively and relieves tension and pain. These *asanas* are often connected with the breath, moving from one to the next with an inhale or exhale.¹⁶⁶ Horvath recommends this routine because it stretches the back, reducing lower back tension, and also strengthens the abdominals and buttocks.¹⁶⁷ White and Urioste encourage using this simple routine as a way to warm up the back and bring awareness to the entire body.¹⁶⁸

Olson includes an additional back strengthening variation. From *bharmanasana*, inhale and reach the right arm in front of the body and extend the left leg behind, keeping both extended limbs parallel to the ground and reaching in opposite directions before returning to *bharmanasana* and repeating on the other side. Olson calls this a back strengthener, but it strengthens the entire core.¹⁶⁹ Horvath also recommends this variation because it strengthens the upper back, shoulders, and buttocks.¹⁷⁰

Surya Namaskara

Leska completes her physical warm up before playing the violin with several repetitions of *surya namaskara*, a foundation of the Ashtanga Yoga practice. *Surya Namaskara* consists of several traditional yoga *asanas* connected with a flow of breath and movement. She explains that *surya namaskara* extends the warm up, and also

¹⁶⁶ Olson, *Musician's Yoga*, 69-71.

¹⁶⁷ Horvath, *Playing (less) Hurt*, 117.

¹⁶⁸ Intermission Sessions and Retreat. "Intermission: An Introduction," 1:14.

¹⁶⁹ Olson, *Musician's Yoga*, 72.

¹⁷⁰ Horvath, *Playing (less) Hurt*, 118.

cultivates balance and strength in the whole body.¹⁷¹ The *asanas* included in this routine are *tadasana*, *uttanasana*, *urdhva mukha svanasana*, and *adho mukha svanasana*. In Ashtanga Yoga, practicing this set of *asanas* establishes the mood and rhythm for the entire yoga session and Leska believes it can do the same for one's musical practice session.¹⁷²

Surya namaskara is not used in Iyengar Yoga because it does not focus on static alignment in each pose. When the breath connects movements and *asanas*, alignment is not a priority. Iyengar Yoga encourages remaining in each posture for several inhalations and exhalations before moving to a neutral body position. Moving quickly from one *asana* to another can lead to injury, improper alignment, and incorrect muscle engagement.

Resting

Savasana

Olson believes “relaxation is the most important part of a yoga practice routine...[it] allows the body to integrate all of the postures that have been practiced.”¹⁷³ Winding explains that *savasana* (see A.29.) teaches the body and mind how to release and let go and that by fully relaxing in a prone position, concentrating on

¹⁷¹ Leska, “Violin and Yoga,” 39.

¹⁷² Ibid.

¹⁷³ Olson, *Musician's Yoga*, 105.

the breath to calm the mind, one reaches a state of relaxation she terms "conscious peace." Winding asserts that when one practices *savasana* several times per day, one learns to rest and recharge the body and mind.¹⁷⁴ *Savasana* is the traditional finishing pose in any yoga tradition. Performing this *asana* at the end of a yoga practice allows the benefits of more athletic and challenging *asanas* to be absorbed by the body and allows the mind to relax.

Supta Matsyendrasana and Jathara Parivartanasana

Supta Matsyendrasana is a gentle supine twist. Both shoulders remain on the ground as the hips twist to either side. The stretch in the lower back eases pain caused by sitting or standing with poor posture. Melissa White and Elena Urioste recommend this *asana* because it stretches the lower back. They also employ a variation of this pose with *garudasana* legs for an additional release in the lower back. Urioste and White recommend that if one feels discomfort during this posture, to visualize the part of the body that feels uncomfortable and direct the breath there in an attempt to remove the tension.¹⁷⁵ Bruser also recommends this *asana*, keeping just one knee bent and looking over the shoulder in the opposite direction.¹⁷⁶ Olson uses this pose because twists are a good way to align the spine and release toxins from the body. She encourages practicing *supta matsyendrasana* before resting in *savasana*.¹⁷⁷

¹⁷⁴ Winding, *Yoga for Musicians and Other Special People*, 55-56.

¹⁷⁵ Intermission Sessions and Retreat. "Intermission: An Introduction," 4:39.

¹⁷⁶ Bruser, *The Art of Practicing*, 36.

¹⁷⁷ Olson, *Musician's Yoga*, 76.

Jathara parivartanasana is a gentler version of *supta matsyendrasana*. The knees are bent and kept together when lowered to either side of the body. Horvath recommends *jathara parivartanasana* because it restores flexibility to the spine, reduces lower back tension, and strengthens the lower back.¹⁷⁸

Viparita Karani

Viparita Karani (see A.28.) is a very soothing pose. A bolster, block, or pillow placed underneath the pelvis adds comfort and support. Olson recommends practicing this posture before going to bed because it helps the body and mind relax.¹⁷⁹

¹⁷⁸ Horvath, *Playing (less) Hurt*, 118.

¹⁷⁹ Olson, *Musician's Yoga*, 107.

Discussion of Sources

Many of the authors in this chapter, like Menuhin, understand the intuitive value of yoga. They use their own positive experiences combining yoga and music making as the impetus for promoting yoga and disseminating their recommendations. Much of the information in this chapter relies primarily on the input of the musician, and in some cases direct consultations with a yoga teacher. The authors have diverse backgrounds and turn to several different types of yoga as their primary sources: Bruser, Horvath, Lee Soen, and Shapter draw on the teachings of Iyengar,¹⁸⁰ White and Urioste practice Bikram yoga,¹⁸¹ Leska is a certified Power Yoga instructor,¹⁸² and Olson is a certified Kripalu Yoga teacher.¹⁸³

Several of the authors included in this chapter do not explain the yogic benefits, pertinent anatomic structures involved, traditional Sanskrit names of poses, or current medical research that supports their recommendations. Additionally, many of these sources do not target violinists, and are meant to benefit the music community at large. The following chapter discusses the specific physical issues and types of pain that many violinists experience to further comprehend how yoga can best serve the needs of violinists.

¹⁸⁰ Iyengar Yoga emphasizes static alignment in each *asana*. Props are used to ensure alignment can be maintained without undue stress.

¹⁸¹ Bikram Yoga is a series of 26 *asanas* and two *pranayama* exercises performed in a heated room over a period of ninety minutes.

¹⁸² Power Yoga is a variation of Ashtanga Yoga. It is an aerobically vigorous style of yoga that connects the breath with movement. Many vinyasa yoga styles grew out of Ashtanga yoga.

¹⁸³ Kripalu Yoga emphasizes cultivating a quiet mind through connecting the breath with movement. It is a gentle style of yoga that often combines free movement with traditional *asanas* and *pranayama* exercises.

Table 3.1 How Musicians Use Yoga

| <i>Sanskrit</i> | Translation | Classification | Recommended By |
|--|--------------------------------|-----------------------|---|
| | | | |
| <i>Pranayama</i> | Breathing Exercise | | |
| <i>Ujjayi Pranayama</i> | Breath of Victory | Breathing Exercise | Elizabeth Lee Soen, Mia Olson, Madeline Bruser |
| <i>Nadi Shodhana</i> | Subtle Nerve Cleansing Breath | Breathing Exercise | Mia Olson |
| <i>Asana</i> | Physical Posture | | |
| <i>Tadasana</i> | Mountain Pose | Standing | Lauryn Shapter, Mia Olson, Elizabeth Lee Soen, Madeline Bruser, |
| <i>Uttihita Trikonasana</i> | Extended Triangle Pose | Standing | Lauryn Shapter, Mia Olson |
| <i>Uttihita Parsvakonasana</i> | Extended Side Angle Pose | Standing | Lauryn Shapter, |
| <i>Virabhadrasana I</i> | Warrior I Pose | Standing | Lauryn Shapter, Mia Olson |
| <i>Virabhadrasana II</i> | Warrior II Pose | Standing | Lauryn Shapter, Mia Olson |
| <i>Uttanasana</i> | Intense Forward-Bending Pose | Standing | Madeline Bruser, Mia Olson, Malgorzata Leska |
| <i>Padangusthasana</i> | | Standing | Malgorzata Leska |
| <i>Tadasana Gomukhasana Arms</i> | Cow-Face Pose Arms Pose | Standing | Mia Olson |
| <i>Tadasana Garudasana Arms</i> | Eagle Pose Arms Pose | Standing | Mia Olson, Malgorzata Leska, Madeline Bruser |
| <i>Tadasana Paschima Namaskarasana</i> | Reverse Prayer Hands Pose | Standing | Mia Olson |
| <i>Dandasana</i> | Staff Pose | Forward Bend | Mia Olson, Madeline Bruser |
| <i>Baddhakonasana</i> | Bound Angle Pose | Forward Bend | Madeline Bruser |
| <i>Upavistha Konasana</i> | Wide-Angle Seated Forward Bend | Forward Bend | Madeline Bruser |
| <i>Paschimottanasana</i> | Seated Forward Bend | Forward Bend | Madeline Bruser |

| Sanskrit | Translation | Classification | Recommended By |
|--|---|-----------------------|--|
| | | | |
| <i>Marichyasana</i> | Sage Marichi's Pose | Forward Bend | Malgorzata Leska |
| <i>Supta Padangusthasana</i> | Reclining Hand to Big Toe Pose | Forward Bend | Malgorzata Leska |
| <i>Urdhva Mukha Svanasana</i> | Upward Facing Dog Pose | Backbend | Janet Horvath, Lauryn Shapter |
| <i>Ardha Salabasana</i> | Half Locust Pose | Backbend | Melissa White, Elena Urioste |
| <i>Adho Mukha Svanasana</i> | Downward Facing Dog Pose | Inversion | Janet Horvath, Lauryn Shapter, |
| <i>Halasana</i> | Plow Pose | Inversion | Madeline Bruser |
| <i>Adho Mukha Virasana</i> | Downward Facing Hero Pose | Inversion | Mia Olson, Janet Horvath, Malgorzata Leska |
| <i>Adho Mukha Vrksasana</i> | Downward Facing Tree Pose/Handstand | Arm Balance | Malgorzata Leska |
| <i>Vrksasana</i> | Tree Pose | Balancing | Mia Olson, Elizabeth Lee Soen |
| <i>Virabhadrasana III</i> | Warrior III Pose | Balancing | Mia Olson |
| <i>Garudasana</i> | Eagle Pose | Balancing | Mia Olson |
| <i>Natarajasana</i> | Lord of the Dance Pose | Balancing | Melissa White, Elena Urioste |
| <i>Bharmanasana*</i> | Table Pose | Yoga Routine | Mia Olson, Janet Horvath, Melissa White, Elena Urioste |
| <i>Marjaryasana</i> | Cat Pose | Yoga Routine | Mia Olson, Janet Horvath, Melissa White, Elena Urioste |
| <i>Bitilasana</i> | Cow Pose | Yoga Routine | Mia Olson, Janet Horvath, Melissa White, Elena Urioste |
| <i>Surya Namaskara</i> | Sun Salutation | Yoga Routine | Malgorzata Leska |
| <i>Savasana</i> | Corpse Pose | Resting | Mia Olson, Eleanor Winding |
| <i>Supta Matsyendrasana/ Supta Jathara Parivartanasana</i> | Supine Spinal Twist/Supine Stomach turning Pose | Resting | Melissa White, Elena Urioste |
| <i>Jathara Parivartanasana</i> | Stomach-Twisting Pose | Resting | Mia Olson, Janet Horvath |
| <i>Viparita Karani</i> | Legs Up the Wall Pose | Resting | Mia Olson |

Chapter 4: Common Physical Issues of Violinists

Overview

The physical ailments and performance related issues that musicians incur have been the focus of numerous studies over the past several decades. Music teachers and performers are increasingly aware of potential injuries, disorders, and weaknesses, and methods of addressing them. According to research conducted by physical therapists and rehabilitation scientists Dr. Frederico Kochem and Dr. Julio Guilherme Silva for their article “Prevalence and Associated Factors of Playing-Related Musculoskeletal Disorders in Brazilian Violin Players,” professional musicians have a high risk of developing playing related musculoskeletal disorders (PRMDS) because their routine requires “strenuous practice on non-ergonomic instruments and...psychological pressure from conductors and audiences.”¹⁸⁴ In “Injury Prevention: What Music Teachers Can Do,” Guptill and Zaza acknowledge that injuries to the upper extremities, including the hands, arms, and shoulders, are common in all musicians. These injuries include overuse problems, strains and sprains, inflammatory conditions like tendonitis and tenosynovitis, nerve compression problems such as carpal tunnel syndrome, and other neurological conditions like focal dystonia. They also consider high levels of performance anxiety and other mental health concerns as potential issues related to playing an instrument.¹⁸⁵

¹⁸⁴ Frederico Kochem and Julio Guilherme Silva, “Prevalence and Associated Factors of Playing-Related Musculoskeletal Disorders in Brazilian Violin Players.” *Medical Problems of Performing Artists* 32, No. 1 (2017): 27.

¹⁸⁵ Guptill and Zaza, “Injury Prevention,” 28.

Antonio Abréu-Ramos and William Micheo, sports medicine doctors, cite Dr. Alice Brandfonbrener's research in their article "Lifetime Prevalence of Upper-Body Musculoskeletal Problems in a Professional-level Symphony Orchestra: Age, Gender, and Instrument Specific Results," when discussing three diagnostic categories of performance-induced medical problems among musicians. These categories consist of musculoskeletal or muscle-tendon pain syndrome, also referred to as overuse syndrome, focal entrapment neuropathies, and focal dystonia.¹⁸⁶ The authors explain that risk factors for developing upper-body musculoskeletal problems (MSKPs) include age, gender, excessive playing, change in the amount of playing time, and a change in the degree of intensity. The physical factors of the individual, such as physique, joint hyperlaxity, muscle conditioning, and arm and hand size also play a role in developing MSKPs. Music-related factors like technique, playing posture, methods of instrument support, playing time and intensity, and the repertoire itself can also increase the likelihood of developing a MSKP.¹⁸⁷

This chapter discusses the most prevalent PRMDs, pain, and physical manifestations of performance anxiety in the violin community relying primarily on research conducted in the field of performing arts medicine. The five sections of this chapter discuss pain, posture, overuse injuries, physical symptoms of performance anxiety, and prevention. Many of these topics are interrelated but warrant individual consideration.

¹⁸⁶ Antonio Abréu-Ramos and William Micheo, "Lifetime Prevalence of Upper-body Musculoskeletal Problems in a Professional-level Symphony Orchestra: Age, Gender, and Instrument-specific Results." *Medical Problems of Performing Artists* 22, no. 3 (2007): 97.

¹⁸⁷ Ibid.

Pain

William Dawson, author of “Playing without Pain: Strategies for the Developing Instrumentalist,” explains that pain can vary in nature, degree, location, and timing depending on the type of condition and its cause. “Pain may be described as sharp, dull, persistent, or throbbing...and usually occurs at the site of the problem but may appear at a location distant from the affected area.”¹⁸⁸ Guptill and Zaza discuss several common symptoms of playing related injuries that music teachers should be familiar with to best advise students. These symptoms include pain, numbness or tingling, and persistent lack of control. The authors assert that pain while playing is an indication that the player has pushed the body too far, whereas numbness and tingling may be an indication of nerve involvement and persistent lack of control of a finger, hand, or arm may be an indication of focal dystonia.¹⁸⁹ Berque and Gray’s definition of PRMDs in “The Influence of Neck-Shoulder Pain on Trapezius Muscle Activity among Professional Violin and Viola Players: An Electromyographic Study,” aligns with the symptoms Guptill and Zaza put forth. They write that “pain, weakness, numbness, tingling or other symptoms” that interfere with the ability to play an instrument at the level one is accustomed, are symptoms of a PRMD.¹⁹⁰

¹⁸⁸ William J. Dawson, “Playing without Pain: Strategies for the Developing Instrumentalist.” *Music Educators Journal* 93, No. 2 (2006): 39, accessed November 11, 2017. <http://www.jstor.org/stable/3878469>.

¹⁸⁹ Guptill and Zaza, “Injury Prevention,” 33.

¹⁹⁰ Berque and Gray, “The Influence of Neck-Shoulder Pain on Trapezius Muscle Activity among Professional Violin and Viola Players,” 68.

Caldron et al. conducted a pilot study in 1986 titled “A Survey of Musculoskeletal Problems Encountered in High-Level Musicians,” and discovered that the most commonly reported problems by musicians were tendonitis, muscle cramps and spasms, and nerve entrapment syndromes. They also found that fingers, shoulders, and the back were the most frequently reported location of symptoms.¹⁹¹ In the seminal article “Medical Problems Among ICSOM Musicians: Overview of a National Survey,” Fishbein et al. found that violinists and violists report the highest amounts of musculoskeletal pain on the left side of the neck and left shoulder. They also report more severe problems with the left hand than the right hand. According to their research, female violinists appear more affected by musculoskeletal problems than their male counterparts, and a significantly higher percentage of women reported severe problems in the left shoulder, both sides of the neck, and the right upper back.¹⁹² Frederico Kochem and Guilherme Silva also determined that women are more likely to develop PRMDs, and their increased susceptibility is likely due to several factors, “First, women have about fifteen percent less muscle strength when compared to men; the smaller hand size of females causes local stress depending on the instrument size, and these factors can affect endurance and muscle strength in musical performance.”¹⁹³

Dr. Katrin Meidell’s dissertation, “Epidemiological Evaluation of Pain Among String Instrumentalists,” found that violinists report the highest levels of pain when

¹⁹¹ Paul Caldron et al., “A Survey of Musculoskeletal Problems Encountered in High-Level Musicians.” *Medical Problems of Performing Artists* 1, No. 4 (1986): 136-137.

¹⁹² Fishbein et al., “Medical Problems Among ISOM Musicians: Overview of a National Survey.” *Medical Problems of Performing Artists* 1, No. 3 (1988): 6.

¹⁹³ Kochem and Guilherme Silva, “Prevalence and Associated Factors of Playing-Related Musculoskeletal Disorders in Brazilian Violin Players,” 30.

playing, as compared to other string players.¹⁹⁴ She claims that there are three primary variables in musculoskeletal pain: force, posture, and repetition.¹⁹⁵ Her research indicates that violinists report pain most regularly in the left shoulder, neck, and right shoulder respectively. More than fifty percent of the violinists surveyed reported pain in the left shoulder. Violinists also cite the left wrist, upper back, mid back, left fingers, and the left upper arm respectively as regions of the body affected by playing-related pain.¹⁹⁶ Meidell asked participants to complete a survey indicating locations and types of pain, rating it as stabbing, burning, pins and needles, numbness, or aching. Violinists most often used “aching” to describe the pain they experience. Correlating these descriptors to the areas of the body most affected, Meidell discovered that violinists most often describe the pain in their left shoulder as aching.¹⁹⁷ She also noticed a distinct relationship between the total number of pain sites reported and the participants who had to stop practicing due to physical fatigue. This connection indicates that higher levels of discomfort and multiple locations of pain are more likely to prevent a violinist from practicing or reduce the amount of time one can practice. Also, participants who stop practice due to mental fatigue often experience pain when playing, pain after playing, and pain that stops playing.¹⁹⁸

Research conducted by Hiner et al. for “Performance-Related Medical Problems Among Premier Violinists,” aligns with Meidell’s findings that the most common sites

¹⁹⁴ Katrin Meidell, “Epidemiological Evaluation of Pain Among String Instrumentalists,” 59.

¹⁹⁵ *Ibid.*, 63.

¹⁹⁶ *Ibid.*, 30.

¹⁹⁷ *Ibid.*, 31-32.

¹⁹⁸ *Ibid.*, 38.

of symptoms are in the upper extremities, specifically in the wrist and shoulder. Their research indicates that difficulties in the left upper extremity affect holding the violin, vibrato, playing repetitive passages, shifting, playing in higher positions, and performing rapid runs while right upper extremity problems affect bow control, holding the bow, playing on lower strings, tremolo, bow grip, and pizzicato. More than half of the fifteen violinists who participated in this study felt that their medical problems affected more than just one of the previously mentioned aspects of violin playing.¹⁹⁹

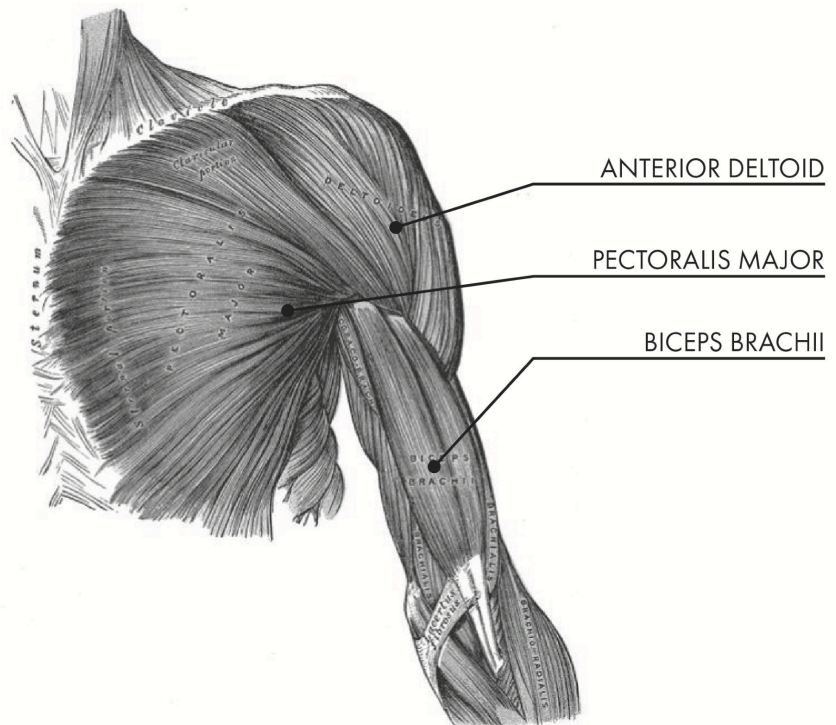
In “Effects of Physical Symptoms on Muscle Activity Levels in Skilled Violinists,” McCrary et al. noticed that violinists with predominantly right-shoulder symptoms displayed “decreased right upper trapezius activity, with a suggestion of increased synergist right pectoralis major, biceps brachii, and anterior deltoid activity levels, especially in excerpts requiring slower bowing movements,” (figure 4.1).²⁰⁰

Berque and Gray reason that discomfort in the neck and shoulder region may not be attributed entirely to upper trapezius (UT) muscle activity: “high intramuscular pressures, impeding muscle blood flow, have been found in the supraspinatus and infraspinatus muscles during prolonged static work with elevated arms, and could explain the physiological stress on the rotator cuff muscles, possibly resulting in chronic disorders around the shoulder joint,” (figure 4.2). They also suggest that tendons, nerves, bones, joints, and bursae may be additional sources of complaints that are often confused with muscular discomfort.²⁰¹

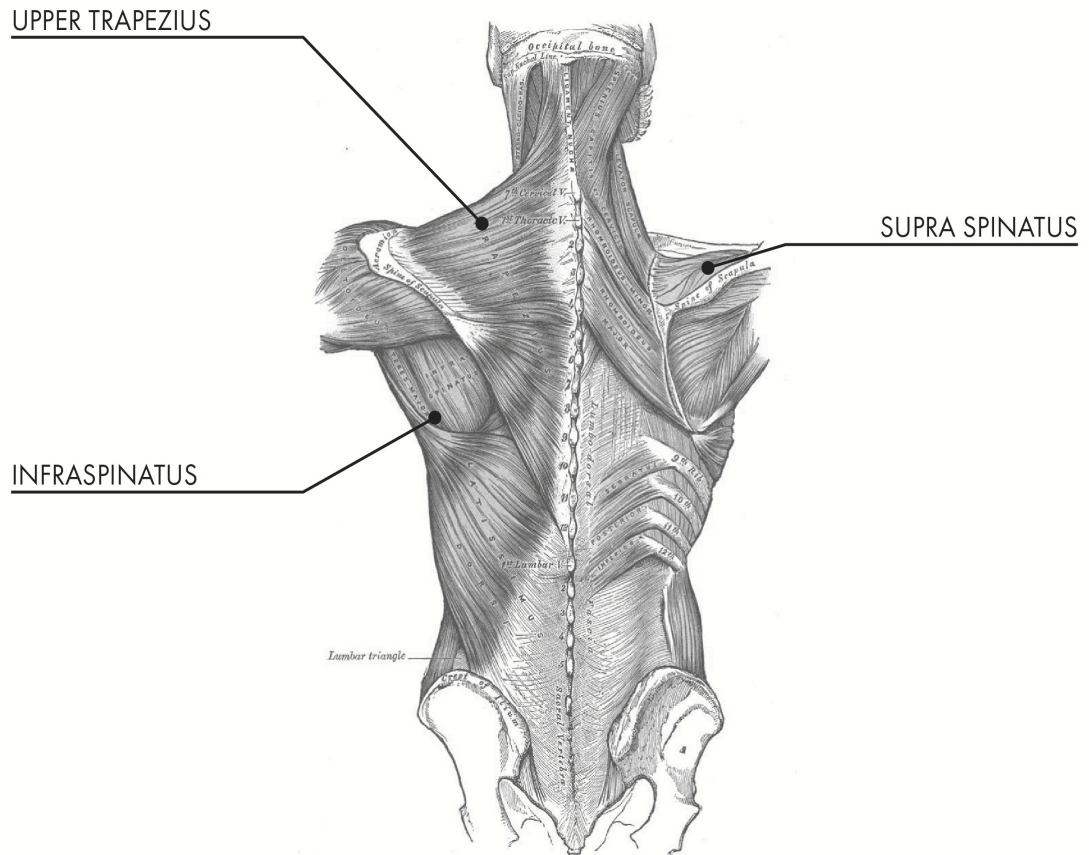
¹⁹⁹ Hiner et al., “Performance-Related Medical Problems Among Premier Violinists,” 68.

²⁰⁰ Matt McCrary, Mark Halaki, and Bronwen Ackermann, “Effects of Physical Symptoms on Muscle Activity Levels in Skilled Violinists.” *Medical Problems of Performing Artists* 31, No. 3 (2016): 131.

²⁰¹ Berque and Gray, “The Influence of Neck-Shoulder Pain on Trapezius Muscle Activity among Professional Violin and Viola Players,” 74.



4.1 - Muscles with Increased Synergist Activity



4.2 - Neck Discomfort

Attributed to the Upper Trapezius and high Intramuscular pressure in the Supraspinatus, and Infraspinatus

Posture

Guptill and Zaza note that awkward body positions required by the shape and weight of the instrument, and the technical difficulty of the repertoire may contribute to injuries.²⁰² They encourage all musicians to be aware of the natural curvatures of the spine and maintain these normal curves when sitting or standing (figure 4.3). Posture should not be static, and the height of the music stand may encourage poor posture if it is not level with the eyes.²⁰³ Kochem and Guilherme Silva expand on this point by explaining that violinists must adopt an "asymmetric and biomechanically unfavorable posture," that presents significant physical demands in both upper limbs.²⁰⁴ The right elbow and wrist constantly alternate between flexion and extension to control the bow movements, while the left hand performs rapid up-and-down motions along the violin fingerboard to press each string in the appropriate place. Due in part to the repetitive and sustained movements of raising the left shoulder, and the "leftward rotation and lateral flexion of the neck," the muscles of the neck and shoulders are often overworked.²⁰⁵

In "Motor Activity as a Way of Preventing Musculoskeletal Problems in String Musicians," Wilke et al. explain that because violin playing requires an asymmetrical and static body position for extended periods of time, the arm musculature, rotator cuff,

²⁰² Guptill and Zaza, "Injury Prevention," 29.

²⁰³ Ibid., 30.

²⁰⁴ Kochem and Guilherme Silva, "Prevalence and Associated Factors of Playing-Related Musculoskeletal Disorders in Brazilian Violin Players," 28.

²⁰⁵ Ibid.

and cervical and thoracic spine are often affected. Due to the asymmetry of the playing position assumed by violinists, it can also lead to further exposure of the spine.²⁰⁶

Berque and Gray explain that during violin playing, the right and left shoulders have very different functions: “the right shoulder experiences both static and dynamic loading, whereas the left shoulder has a more static role to play...Furthermore, it may be possible that the variation of muscle loading experienced by the left and right UT muscles contributes to the development or maintenance of PRMDs.”²⁰⁷ Their analysis of the commonly taught and adhered to posture of violinists is “a raised left shoulder, the instrument supported on the left supraclavicular fossa, left rotation and side-flexion of the head, abduction and full external rotation of the left arm, left forearm supination, a dropped right shoulder, and internal rotation and abduction of the bowing arm with forearm pronation.”²⁰⁸

In the article “Musculoskeletal Disorders and Asymmetric Playing Postures of the Upper Extremity and Back in Music Teachers: A Pilot Study,” Edling and Fjellman-Wiklund report that musicians who play with the arms lifted more than forty degrees report higher rates of neck and shoulder disorders than those who play with a more neutral arm position. Their research indicates that working with elevated arms leads to a high intramuscular pressure, impeding blood flow to the infraspinatus and supraspinatus

²⁰⁶ Christiane Wilke et al., “Motor Activity as a Way of Preventing Musculoskeletal Problems in String Musicians.” *Medical Problems of Performing Artists* 26, No. 1 (2011): 25.

²⁰⁷ Berque and Gray, “The Influence of Neck-Shoulder Pain on Trapezius Muscle Activity among Professional Violin and Viola Players,” 74.

²⁰⁸ *Ibid.*, 69.

muscles.²⁰⁹ They also note that tasks requiring repetitive motions with the hands and arms demand an added amount of static load in the stabilizing scapular muscles, potentially leading to PRMDS in the neck and shoulders.²¹⁰

Spahn et al. studied the body movements of violinists while standing and sitting in the article “Comparing Violinists’ Body Movements While Standing, Sitting, and in Sitting Orientations to the Right or Left of a Music Stand.” Their analysis shows significant differences between standing and sitting, mainly in the upper body parts. They also noticed that violinists experience a limited range of motion while seated, particularly when positioned to the right of the music stand.²¹¹ The authors explain that a weight overload on one-side results inevitably in an asymmetric body posture, "As the sitting position implicates already an increased burden on the lumbar intervertebral discs, an asymmetric posture in this position leads to additional physiological stress."²¹² According to the questionnaires completed by participants of this study, violinists prefer playing in a standing position because they have a larger moving space for the whole body and bow arm. They also have greater body stability, and report an increased ability to concentrate in a standing position.²¹³

²⁰⁹ Cecilia Wahlström Edling and Annacristine Fjellman-Wiklund, “Musculoskeletal Disorders and Asymmetric Playing Postures of the Upper Extremity and Back in Music Teachers: A Pilot Study.” *Medical Problems of Performing Artists* 24, No. 3 (2009): 116.

²¹⁰ *Ibid.*, 113.

²¹¹ Claudia Spahn et al., “Comparing Violinists' Body Movements While Standing, Sitting, and in Sitting Orientations to the Right or Left of a Music Stand.” *Medical Problems of Performing Artists* 29, No. 2 (2014): 86.

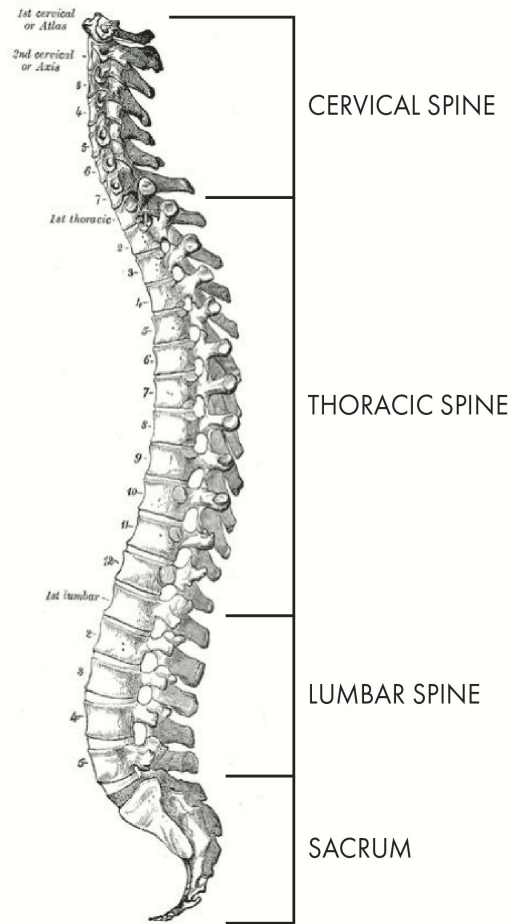
²¹² *Ibid.*, 92.

²¹³ *Ibid.*

In the article, “Abnormalities of the Sitting Postures of Musicians,” Dr. Rene Cailliet cautions that merely changing the sitting posture by altering the chair does not prevent irritation of deconditioned tissues. She explains that most seated postural stress is chronic and unyielding and this makes changing only the seated position or posture insufficient when tackling discomfort related to the sitting posture.²¹⁴ Guptill and Zaza also warn that musicians should be careful when sitting at the edge of their chair, not to overextend the lower back when attempting to sit up straight as this can cause unnecessary tension and pain in the lower and mid-back. Similarly, when standing to play, musicians should be careful not to lock the knees backward as this may cause slouching through the mid- to upper back and shoulder areas.²¹⁵

²¹⁴ Rene Cailliet, “Abnormalities of the Sitting Postures of Musicians.” *Medical Problems of Performing Artists* 5, No. 4 (1990): 132-133.

²¹⁵ Guptill and Zaza, “Injury Prevention,” 31.



4.3 - The Natural Curves of the Spine

Over-Use

William Dawson asserts that overuse is the most common way of describing playing-related problems. He defines overuse as “the practice or act that produces physical difficulties,” and not the difficulties themselves. Symptoms of overuse-related problems often include feelings of weakness, tightness, fatigue, stiffness, tenderness, ache, heaviness, cramping, and warmth.²¹⁶ According to Dawson, three major factors contribute to the development of overuse-related problems. The first factor is engaging in any activity that exceeds the body's physiological limits and often occurs when one engages in an activity too intensely for too long.²¹⁷ Guptill and Zaza affirm this by highlighting the risk factor of repetitive movements during extended hours of practice. They point out that a rapid increase in practice time seems to predispose musicians to injury.²¹⁸ Spahn et al. explain that the high prevalence of PRMDs in violin players is partially due to using muscles beyond their optimal range of performance.²¹⁹ Berque and Gray suggest that complex repetitive movements, involving prolonged static and dynamic loading of muscles, contribute to the creation of PRMDs.²²⁰ They discovered that because violin playing requires both repetitive actions and static loading, violinists

²¹⁶ Dawson, “Playing without Pain,” 39.

²¹⁷ Ibid., 37.

²¹⁸ Guptill and Zaza, “Injury Prevention,” 29.

²¹⁹ Spahn et al., “Comparing Violinists' Body Movements While Standing, Sitting, and in Sitting Orientations to the Right or Left of a Music Stand,” 91.

²²⁰ Berque and Gray, “The Influence of Neck-Shoulder Pain on Trapezius Muscle Activity among Professional Violin and Viola Players,” 69.

have the highest risk of PRMDs with the neck and shoulders being the prime site affected.²²¹

Dawson's second factor related to overuse is misuse, including improper playing techniques, such as using an unnecessary amount of muscle force or playing with excessive physical tension. When opposing muscle groups contract at the same time, making music becomes very physically inefficient.²²² Guptill and Zaza agree that "Undue tension can cause long-term pain and injury. Although position is important in preventing undue tension, technique is also important... good technique reduces the amount of repetition and time required to learn new repertoire."²²³ Dawson explains that muscles that cannot adapt to rapidly increasing demands often become strained. In the most severe cases caused by overuse, microscopic tears in some muscle fibers occur, "Tendons that are part of many muscles also can be affected by repetitive forceful actions that require them to glide back and forth excessively. This action can produce inflammation of the tendon or its gliding coverings, conditions called *tendinitis* or *tenosynovitis*. These occur most often in musicians' hands, wrists, and shoulders."²²⁴

Dawson's third factor in overuse is a genetic condition known as hypermobility. He explains "hypermobility people have ligaments that are looser than normal, allowing their joints to move in excessively large ranges... This condition can interfere with smooth and rapid playing." In contrast, some people have abnormally tight muscles,

²²¹ Ibid., 68.

²²² Dawson, "Playing without Pain," 37.

²²³ Guptill and Zaza, "Injury Prevention," 31.

²²⁴ Dawson, "Playing without Pain," 38.

which may limit their range of motion and can also cause damage.²²⁵ Kochem and Guilherme Silva note that the higher prevalence of joint hypermobility among women is an important factor in the higher rates of reported injuries by female violinists.²²⁶

Physical Manifestations of Performance Anxiety

Performance anxiety (PA) can be an undermining variable in playing-related health. Various studies indicate that PA negatively affects musical performance. Fishbein et al. found stage fright to be the most prevalent medical problem for all orchestral musicians.²²⁷ In fields outside of music, research shows that anxiety leads to increased pain reactivity, but at this time no source examines the musculoskeletal consequences musicians experience when suffering from PA.²²⁸ In conjunction with this, Cailliet's research indicates that the emotional aspects of posture and movement play a major role in musculoskeletal pain that originates in the spine. Anxiety, apprehension, and fatigue all have adverse effects on neuromuscular action and pain perception.²²⁹ She stresses the importance of considering the entire spine when evaluating the painful sitting postures of musicians.²³⁰

According to Meidell's research, the most cited non-musculoskeletal problem in

²²⁵ Ibid., 37-38.

²²⁶ Kochem and Guilherme Silva, "Prevalence and Associated Factors of Playing-Related Musculoskeletal Disorders in Brazilian Violin Players," 30.

²²⁷ Fishbein et al., "Medical Problems Among ISOM Musicians," 8.

²²⁸ Meidell, "Epidemiological Evaluation of Pain Among String Instrumentalists," 3.

²²⁹ Cailliet, "Abnormalities of the Sitting Postures of Musicians," 135.

²³⁰ Ibid.

string players is stage fright.²³¹ Almost half of the subjects reported that the somatic musical aspects including shifting, dexterity, bow control, vibrato, accuracy, and dynamics are most affected by PA. Somatic non-musical aspects, including lack of control, tension, shaking, posture, and breathing were also affected but reported at a lesser frequency.²³² Interestingly, most violinists who participated in this study seem to be more aware of the factors of violin playing that are affected by performance anxiety than the non-musical elements, suggesting that many violinists have poor body awareness.

Prevention

In recent years musicians have started to focus on preventative measures that ward off PRMDs, pain, and performance anxiety. Injury prevention is essential for a healthy and uninterrupted musical career. Fishbein et al. indicate that based on data they collected from more than two thousand orchestral musicians, there is "an urgent need for techniques to treat and prevent a variety of occupation-related medical problems."²³³ They found that musicians often turn to movement therapy as a way to treat severe problems. Movement treatments documented in their survey include chiropractic manipulation, physical therapy, Alexander technique, aerobic exercise, structured muscle strengthening, and yoga.²³⁴ In their article, "Instrumental Musicians with Upper

²³¹ Meidell, "Epidemiological Evaluation of Pain Among String Instrumentalists," 24.

²³² Ibid., 48-49.

²³³ Fishbein et al., "Medical Problems Among ISOM Musicians," 8.

²³⁴ Ibid., 7.

Extremity Disorders: A Follow-up Study," Knishkowsky and Lederman suggest that preventative treatments that attempt to avoid surgery, prove to be more successful in the management of pain and playing disorders among all musicians.²³⁵ This implies that physical movement is beneficial when attempting to avoid PRMDs.

There are several accepted methods of treating and preventing injuries and pain for musician. Posture and alignment are both popular topics regarding musicians' health and wellness. Dawson notes that proper seating can minimize the possibility of posture-related muscle strain while in a rehearsal or a seated performance.²³⁶ Research conducted by Abréu-Ramos and Micheo indicates that rest and posture changes are the most common alleviating factors for violinists suffering from pain.²³⁷ Taking practice breaks may be a short-term solution, but muscles that are strained or overworked need rest to recover. Guptill and Zaza also suggest that doing a physical warm-up before playing may also be related to a decrease in playing-related injuries.²³⁸

Wilke et al. explain that an ideal approach to treatment and prevention is holistic and combines strength, endurance, and flexibility.²³⁹ They also explain that there are two different types of strength at work when playing the violin: isometric and dynamic strength. The left shoulder engages in static work by holding the instrument, while the

²³⁵ Barry Knishkowsky and Richard Lederman, "Instrumental Musicians with Upper Extremity Disorders: A Follow-up Study" *Medical Problems of Performing Artists* 1, No. 3 (1986): 89.

²³⁶ Dawson, "Playing without Pain," 39.

²³⁷ Abréu-Ramos and Micheo, "Lifetime Prevalence of Upper-body Musculoskeletal Problems in a Professional-level Symphony Orchestra," 104.

²³⁸ Guptill and Zaza, "Injury Prevention," 29.

²³⁹ Wilke et al., "Motor Activity as a Way of Preventing Musculoskeletal Problems in String Musicians," 28.

arms perform dynamically moving in quick and erratic patterns. This varied type of exposure may lead to muscular imbalances, which include a stiffened neck and shoulder muscles, specifically the levator scapulae, rhomboid, and trapezius, or a relative weakness of the triceps brachii, the left-sided arm extensor muscles (figure 4.4). To correct these imbalances, the authors explain that any training program employed by violinists should focus on compensatory strength training for each agonist and antagonist muscle group because muscle endurance training also improves stress resistance.²⁴⁰ The authors found that musicians who perform little or no physical activity consider the physical demands of playing to be more intense than musicians who participate in sports or exercise regularly. “This means that a regular training program affects the perceived exertion indirectly and helps musicians to cope with the discomfort.”²⁴¹ They recommend that all string players incorporate regular physical activity and proper alignment of the joints into their practice habits. The authors subdivide the physical performance of any subject into the elements of “strength, endurance, flexibility, rapidity, and coordination.”²⁴² Their research indicates that the process of playing a string instrument is most affected by strength and endurance. Strength training for violinists is indispensable because without it one cannot comfortably hold the instrument for hours at a time.²⁴³

Wilke et al. recommend that string players follow “a well-balanced choice of exercises for the shoulders, upper arms, and muscles of the trunk, which includes the

²⁴⁰ Ibid., 26-27.

²⁴¹ Ibid., 26.

²⁴² Ibid.

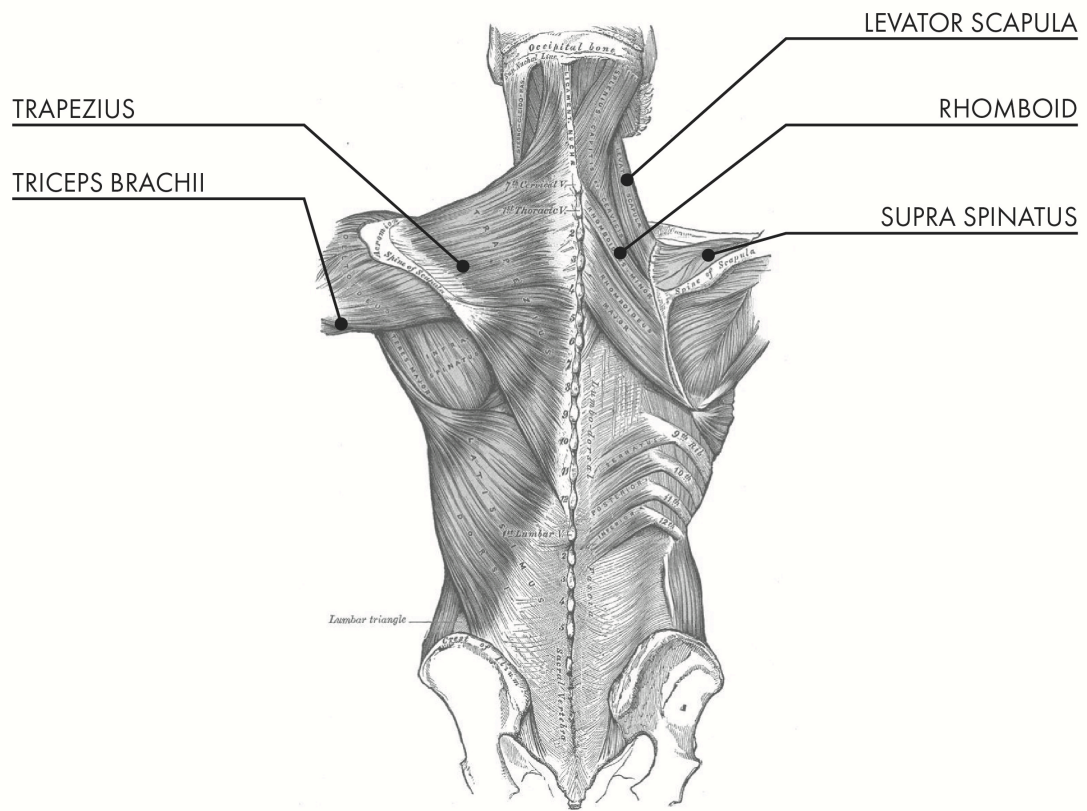
²⁴³ Ibid., 28.

back muscles and abdominal muscles.”²⁴⁴ Research conducted by Abréu-Ramos and Micheo aligns with this and indicates that core strengthening can help reduce the recurrence of low back pain. Violin-specific upper-body conditioning that emphasizes endurance may also prevent problems in the upper extremities. The authors speculate that the lack of proper physical conditioning in their study participants may have contributed to the high prevalence of MSKPs seen in their study.²⁴⁵

Many of the authors included in this chapter recommend a holistic approach to string playing and practice that emphasizes preventative measures. Training programs for string players should concentrate on strength, endurance, and flexibility. Remaining fatigue-resistant is essential and can affect the ability to perform at a high level for the duration of a performance. Physical conditioning plays a key role in preventing injuries and maintaining well aligned posture while playing the violin requires core strength and upper body stability. Yoga is an excellent way to improve strength, enhance endurance, and increase flexibility simultaneously. The following chapter discusses how yoga is already used to address physical ailments, by strengthening weak areas of the body, enhancing body mechanics, and improving the ability to deal with anxiety disorders such as stage fright.

²⁴⁴ Ibid., 27-28.

²⁴⁵ Abréu-Ramos and Micheo, “Lifetime Prevalence of Upper-body Musculoskeletal Problems in a Professional-level Symphony Orchestra,” 97.



4.4 - Muscle Imbalances of Violinists

Chapter 5: Yoga As Therapy

Introduction

Yoga is a safe and effective complementary therapy and an alternative to conventional exercise for managing pain and functional limitations for a range of musculoskeletal disorders. According to Lesley Ward, author of "Yoga: A useful and effective therapy for musculoskeletal disorders?" research regarding the use of yoga as a therapy for musculoskeletal disorders began in the 1990s.²⁴⁶ She explains that "the physical, breathing, and relaxation techniques of yoga offer a range of practices that are adaptable to the variable nature of musculoskeletal disorders; and acceptable adherence to home practice in clinical trials suggests participants are able to self-manage their yoga practice."²⁴⁷

A common component of clinical trials studying the effects of yoga is the use of props like chairs, blocks, bolsters, and belts because they enable yoga *asanas* to accommodate the functional and fatigue limitations of all participants.²⁴⁸ Iyengar Yoga emphasizes the therapeutic aspects of yoga by focusing on alignment to bring balance between the body and the mind.²⁴⁹ The emphasis on alignment in Iyengar Yoga also teaches awareness of muscle tension, joint position, and breathing patterns during

²⁴⁶ Lesley Ward, "Yoga: A useful and effective therapy for musculoskeletal disorders?" *Physical Therapy Reviews*, 18 no. 4 (2013): 235.

²⁴⁷ *Ibid.*, 236-37.

²⁴⁸ *Ibid.*, 235.

²⁴⁹ Iyengar, *Yoga Wisdom and Practice*, 32.

practice.²⁵⁰ In “Mood Changes Associated with Iyengar Yoga Practices: A Pilot Study,” Shapiro and Cline explain that Iyengar Yoga classes usually involve “intense and highly focused concentration, often described as a form of meditation, that may facilitate emotional and energy changes.”²⁵¹ Due to the multifaceted nature of yoga, the research spans a variety of conditions, injuries, and disorders, many of which pertain to, or overlap with the issues faced by many violinists.

This chapter examines how yoga is already being studied and applied therapeutically and discusses yoga for strength, pain and tension relief, and anxiety disorders. It specifically focuses on areas of the body associated with PRMDs and pain for violinists and examines literature regarding yoga as relief for anxiety disorders and stage fright. Some of the sources included here do not specifically rely on Iyengar Yoga, but make use of one or more of the core principles of Iyengar Yoga including the use of props, alignment, or therapeutic outcomes.

Strength

In an article titled "Performing Arts Medicine: An Evolving Specialty," Dr. Brandfonbrener asserts that an untuned body is more injury-prone and less resilient than a toned body because it fails to provide the necessary support for muscles that are immediately involved in performing. She explains, "Playing [an] instrument is a physical, highly demanding and coordinated activity. Overall physical conditioning is of

²⁵⁰ Cramer et al. "I'm More in Balance," 541.

²⁵¹ David Shapiro and Karen Cline, "Mood Changes Associated with Iyengar Yoga Practices: A Pilot Study." *International Journal of Yoga Therapy* 14 (2004): 543.

the utmost importance to prevent injury...²⁵² She argues that there is a great deal of evidence supporting the notion that overall physical conditioning is a healthy and recommended way to build resistance to injury: "It is prudent for teachers to encourage some form of low-impact, low-resistance flexibility and endurance-promoting aerobic exercise...for their students and themselves."²⁵³

In the article "Shoulder Saver: How a Down Dog each day keeps painful injuries at bay," Iyengar Yoga instructor and Physical therapist Julie Gudmestad emphasizes that the rotator cuff muscles are vital to maintaining healthy shoulders. Learning to engage and strengthen the rotator cuff muscles is crucial to preventing common shoulder injuries. She explains that teres minor and infraspinatus are the primary muscles that control the external rotation of the shoulder, and when they are strong and healthy, they help protect the shoulder joint by positioning the ball in the socket when one raises the arms above the head. A weakness in these muscles can contribute to shoulder problems that include shoulder impingement, tendinitis, and bursitis. Gudmestad explains that adho mukha svanasana strengthens the subscapularis, supraspinatus, teres minor, and infraspinatus but only when performed with external shoulder rotation. If one can maintain the external rotation in the shoulders, the chest will broaden and lift, creating more space between the shoulder blades.²⁵⁴ She recommends maintaining this rotation in the shoulders for the duration of a complete

²⁵² Alice G. Brandfonbrenner, "Performing Arts Medicine: An Evolving Specialty." *Music Educators Journal* 77, 5 (1991): 41, accessed January 18, 2017, <http://www.jstor.org/stable/3397861>.

²⁵³ Ibid.

²⁵⁴ Julie Gudmestad, "Shoulder Saver: How a Down Dog each day keeps painful injuries at bay." *Yoga Journal*, 208 (2008): 114.

surya namaskara sequence from *adho mukha svanasana*, to *chaturanga dandasana*, and *urdhva mukha svanasana*.²⁵⁵

In "Case Studies of Yoga Therapy with Focused Downward Release and Scapular Stabilization in Shoulder Injuries," Nicole DeAvilla asserts that one must balance the flexibility of the shoulder joint with strength throughout the entire shoulder girdle. She explains that, due to injury or poor body mechanics, we tend to overuse the supraspinatus, upper trapezius, and levator scapulae. If not addressed or corrected, this misuse of the shoulder and back muscles can result in bigger problems.²⁵⁶

Improved shoulder function, pain reduction or elimination, and increased range of motion for a variety of shoulder injuries may result from retraining the mind, breath, and muscles of shoulder movement to maintain downward stabilization of the scapulae and to release unnecessary upper shoulder muscle activation in a variety of Yoga positions. Yoga therapy helps correct general imbalances including left and right discrepancies, and anterior and posterior differences and also heals injuries.²⁵⁷

Focused Downward Release and Scapular Stabilization (FDRSS) utilizes three main concepts for maximum results: the release of secondary, or supportive muscles, the use of the appropriate supportive muscles, and spinal awareness. DeAvilla explains that when one combines FDRSS with yoga, the body is retrained to employ new and healthy movement habits. Although scapular elevation is a natural and essential part of a full range of motion, the scapula is prone to getting "stuck" in the elevated position due to chronic tension. By retraining the muscles of scapular stabilization, particularly

²⁵⁵ Ibid., 115.

²⁵⁶ Nicole DeAvilla and Ananda Kentfield, "Case Studies of Yoga Therapy with Focused Downward Release and Scapular Stabilization in Shoulder Injuries." *International Journal of Yoga Therapy*, 17 (2007): 65.

²⁵⁷ Ibid., 73.

the serratus anterior, she asserts that many shoulder injuries, including impingement syndromes and rotator cuff injuries, can be lessened.²⁵⁸

DeAvilla encourages students to use props and work with a yoga therapist when first attempting this type of work. She employs several *asanas* that, when combined with FDRSS, address three specific shoulder injuries: thoracic outlet syndrome, bicep tendonitis, and rotator cuff injury. Her first recommendation is assisted *pranayama* with Upper Shoulder Release Technique. The student assumes a supported *savasana* with deep belly breaths as the yoga therapist applies manual pressure to areas of the shoulders that should be relaxed, particularly the upper trapezius, levator scapulae, and supraspinatus. DeAvilla uses the same concept in *setu bhandasana*, which stretches many of the anterior muscles of the chest and shoulders while simultaneously contracting the posterior muscles in a way that helps balance uneven strength and flexibility, providing immediate pain relief.²⁵⁹ Chest expanding *asanas* are helpful for many shoulder injuries because they stretch the pectoralis, and other anterior muscles while contracting the rhomboids, trapezius, and additional posterior muscles (Figure 5.1). DeAvilla recommends standing in *tadasana*, clasping the hands behind the back, squeezing the shoulder blades together and lifting the arms back and up, as high as possible. She modifies *virabhadrasana* II by keeping the arms lower than the usual position, and in *virabhadrasana* I, rather than extending the arms above the head, she recommends placing the hands in *Namaste* instead. Finally, DeAvilla explains “Spinal Stretch at the Wall,” a therapeutic variation of *ardha uttanasana*, that teaches the proper

²⁵⁸ Ibid., 66.

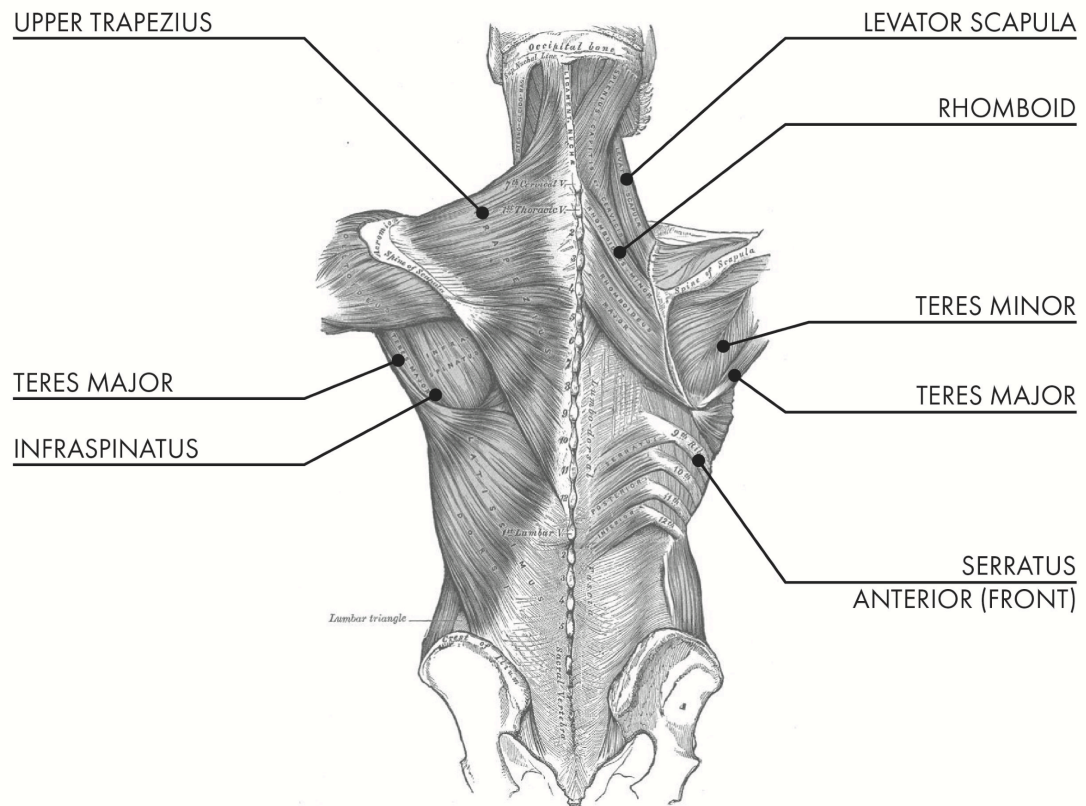
²⁵⁹ Ibid., 67-68.

position of the arm without bearing weight, and also stretches and strengthens the muscles of the shoulder. She recommends practicing this pose before attempting *adhomo mukha svanasana* or other postures that require weight bearing in the arms and shoulders.

In “The Effects of a Therapeutic Yoga Program on Postural Control, Mobility, and Gait Speed in Community-Dwelling Older Adults,” Kelley et al. provided bi-weekly, 60-minute yoga classes that included *pranayama*, body awareness, warm-up activities, and seated, standing, and supine yoga *asanas*. Many of the *asanas* focused specifically on enhancing dynamic control and stabilization of the hips and core muscles. Weakness in the hips and core contributes to lower-extremity instability and impaired postural control.²⁶⁰ The classes were specifically designed for older adults and included *tadasana*, *virabhadrasana I*, *virabhadrasana II*, *trikonasana*, *vrikshasana*, *utkata konasana*, *virabhadrasana III*, and *ardha chandrasana*.²⁶¹ Kelley et al. conclude that yoga is an ideal group exercise program to improve postural control and mobility for senior citizens. The positive results of this study indicate that yoga can enhance the range of motion, and increase stability and core strength for older adults.

²⁶⁰ Kelley et al., “The Effects of a Therapeutic Yoga Program on Postural Control, Mobility, and Gait Speed in Community-Dwelling Older Adults,” 952.

²⁶¹ *Ibid.*, 951.



5.1 - Muscles of the Back and Shoulder Girdle that require Strengthening"

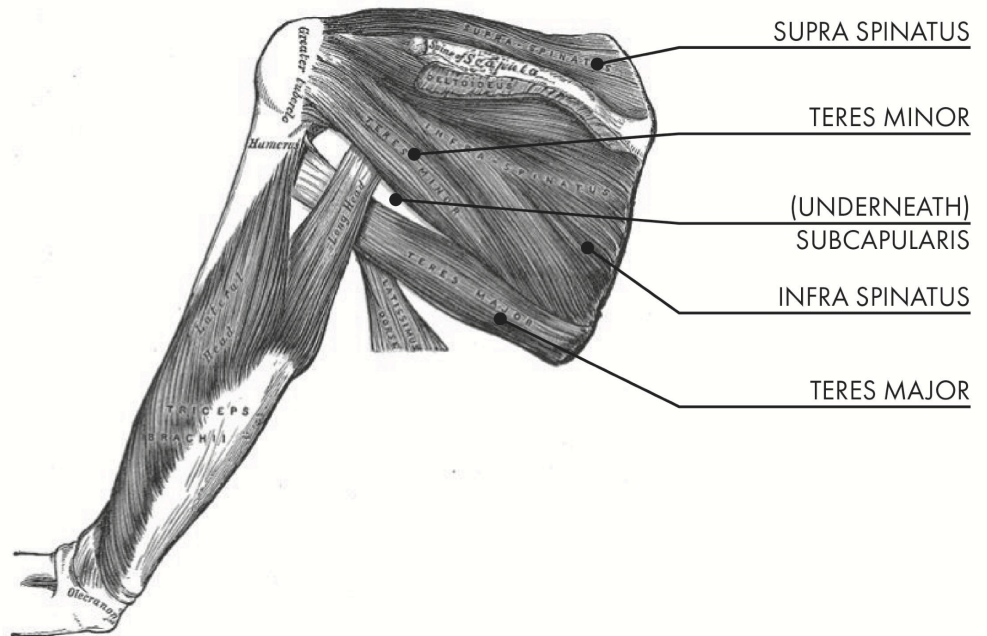
Pain and Tension Relief

In “Headstand for Rotator Cuff Tear: *Shirshasana* or Surgery,” Fishman, Konnoth, and Polesin investigated the positive effects of practicing *sirsasana* or modified *urdhva dandasana*, as taught in Iyengar Yoga, to heal rotator cuff syndrome and tears of the supraspinatus tendon. The muscles that make up the rotator cuff include the supraspinatus, infraspinatus, teres major, teres minor, and subscapularis (figure 5.2 and figure 5.3).²⁶² The authors explain that rotator cuff syndrome often occurs due to trauma, heavy lifting, repeated throwing, and other types of forward motion. Performing *adho mukha svanasana*, *vasisthasana*, and *tittibhasana* with improper alignment can also lead to tears of the supraspinatus.²⁶³ Their results indicate that practicing *sirsasana* or *urdhva dandasana* reduces pain and improves range of motion. This study found that the effects of practicing *sirsasana* are immediate; after just one thirty-second execution of *sirsasana* patients could already move their arms more freely and without pain. The authors note that participants almost instinctively used different muscles to abduct and flex the arms after practicing *sirsasana* suggesting that it could be an effective, non-surgical, and low-cost way to treat rotator cuff syndrome.²⁶⁴

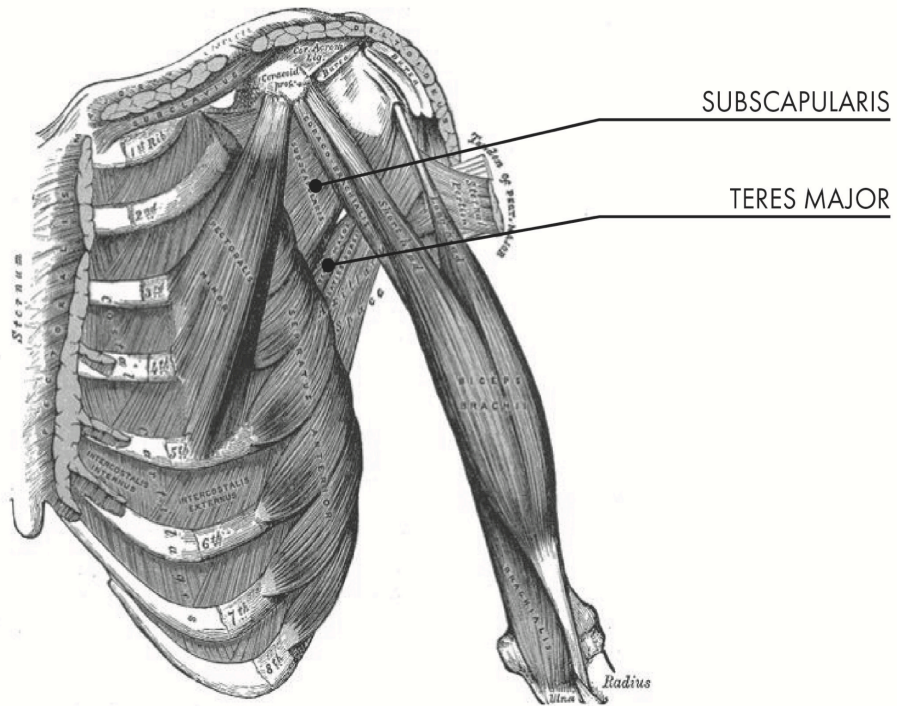
²⁶² Fishman, Konnoth, and Polesin, “Headstand for Rotator Cuff Tear: *Shirshasana* or Surgery.” *International Journal of Yoga Therapy* 16 (2006): 39.

²⁶³ *Ibid.*, 40.

²⁶⁴ *Ibid.*, 47.



5.2 - Muscles of the Rotator Cuff: Posterior



5.3 - Muscles of the Rotator Cuff: Anterior

In "Effectiveness of Yoga Therapy in the Treatment of Migraine Without Aura: A Randomized Controlled Trial," John et al. used yoga therapy as a complementary way to manage headache pain by focusing on the release of the muscles in the neck and upper back. Subjects assigned to the trial group practiced yoga five days per week for sixty minutes and showed significantly reduced frequency, overall intensity, duration of attack, medication needed, anxiety, and depression levels than control group members. All participants were encouraged to use only prescribed medications and yoga for the duration of this study. The trial lasted twelve weeks and included yoga *asanas* for relaxation, toning, strength, and flexibility, focusing primarily on stretching the neck, shoulders, and muscles of the back. The study also included *pranayama*, and *kriya* (nasal water cleansing) exercises.²⁶⁵ Participants were taught all of the information to self-administer this program and asked to practice primarily on their own. The authors do not indicate what specific *asanas* were used in this study but reference several Iyengar Yoga studies including "Evaluation of the Effectiveness and Efficacy of Iyengar Yoga Therapy on Chronic Low Back Pain," by Williams et al. and "Yoga-based intervention for carpal tunnel syndrome: A randomized trial," by Garfinkel et al.²⁶⁶

In "Evaluation of the Effectiveness and Efficacy of Iyengar Yoga Therapy on Chronic Low Back Pain," Williams et al. hypothesized that participants assigned to the yoga group would report greater reductions in functional disability, pain intensity,

²⁶⁵ P.J. John et al., "Effectiveness of Yoga Therapy in the Treatment of Migraine Without Aura: A Randomized Controlled Trial." *Headache: The Journal of Head and Face Pain* 47, 5 (2007): 656, accessed November, 11, 2016, doi: 10.1111/j.15264610.2007.00789.x.

²⁶⁶ *Ibid.*, 660.

depression, and medication usage than the control group.²⁶⁷ The yoga therapy regime, developed in collaboration with two senior Iyengar Yoga teachers, consisted of bi-weekly 90-minute classes lead by Iyengar Yoga instructors, using a full range of props. Participants also practiced yoga independently for thirty minutes using props, an instructional DVD, and an Iyengar Yoga manual complete with photographs and instructions on days that yoga classes were not offered. The 24-week study included a 12-week (midway) checkpoint but despite the significant improvements reported at the midway point, the authors recommend the longer-term treatment period of 24-weeks for people suffering from Chronic Lower Back Pain (CLBP) because "this time period can better prepare participants to sustain the benefits of improving posture, helping to retrain the musculoskeletal system, and building the skills needed to decrease the rate of relapse."²⁶⁸

"Yoga-Based Intervention for Carpal Tunnel Syndrome: A Randomized Trial," by Garfinkel et al. examines the effectiveness of a yoga-based regime for relieving symptoms of carpal tunnel syndrome. Garfinkel et al. used eleven *asanas* to improve flexibility and alignment of the hands, wrists, arms, and shoulders and chose these poses specifically for their strengthening and stretching qualities and to increase awareness of optimal joint position. The authors used Iyengar Yoga for this study because they believe it to be the most beneficial as "it stresses the proper structural alignments and

²⁶⁷ Kimberly Williams et al., "Evaluation of the Effectiveness and Efficacy of Iyengar Yoga Therapy on Chronic Low Back Pain." *Spine* 34, vol 19 (2009): 2066, accessed June 13, 2017, doi: 10.1097/BRS.0b013e3181b315cc.

²⁶⁸ *Ibid.*, 2073.

offers possible adjustments to meet the physical conditions of [individual] patients."²⁶⁹

The *asanas* used in this study are *dandasana*, *namaste*, *urdhva hastasana*, *parvatanasana*, *bharadvajasana*, *garudasana*, *tadasana*, *ardha uttanasana*, *virabhadrasana I arms*, *urdhva mukha svanasana*, *paschima namaste*, *savasana*.²⁷⁰

In "‘I’m More in Balance:’ A Qualitative Study of Yoga for Patients with Chronic Neck Pain," Cramer et al. use Iyengar Yoga to investigate the perceived influence of yoga on body perception and the psychosocial aspects of life for patients with chronic neck pain. Participants in this study attribute the reduced pain levels, increased coping ability, improved pain acceptance, and increased bodily control to their yoga practice. The authors note that body awareness appears to be a key mechanism in creating changes in pain perception.²⁷¹ The course was specifically designed to address chronic neck pain for people without previous yoga experience and included standing, sitting, and supine postures. Participants attended one weekly 90-minute Iyengar Yoga class and also practiced yoga at home over the course of nine weeks. Props, including belts, blocks, and blankets, were employed for safety and the maintenance of correct alignment. The *asanas* included in this program were *bharadvajasana I*, *setu bandha sarvangasana*, *savasana*, *adho mukha svanasana*, *adho mukha virasana*, *utthita parsvakonasana*, *utthita trikonasana*, *tadasana*, *svastikasana*, *supta padangusthasana*, *ardha uttanasana*, *vajrasana*, *urdhva hastasana*,

²⁶⁹ Marian Garfinkel et al., "Yoga-Based Intervention for Carpal Tunnel Syndrome: A Randomized Trial." *JAMA* 280, no. 18(1998): 1601.

²⁷⁰ *Ibid.*, 1602.

²⁷¹ Cramer et al. "‘I’m More in Balance:’ A Qualitative Study of Yoga for Patients with Chronic Neck Pain," 536.

virabhadrasana II.²⁷² The authors explain that a mindful, nonjudgmental, experience of bodily perceptions can enhance the connection between the body and mind, and promotes the acceptance of bodily symptoms: "Regular practice is thought to increase yoga practitioners' awareness of bodily cues, helping them recognize and change habitual patterns of posture and muscle tension."²⁷³ At the end of the study participants viewed yoga as an active self-help strategy, and found that using yoga *asanas* in stressful situations helped relieve or prevent pain and manage stress. Yoga gave participants a more mindful awareness of their actions and perceptions.²⁷⁴

Anxiety and Anxiety Disorders

Yoga instructor and psychologist Bo Forbes, author of "Yoga Therapy in Practice," claims that anxiety disorders are reported with the highest frequency in the United States and includes panic disorder, obsessive-compulsive disorder, social phobias, specific phobias, generalized anxiety disorder, and posttraumatic stress disorder.²⁷⁵ Symptoms of anxiety include excessive anxiety and worry that is difficult to control, restlessness, difficulty concentrating, fatigue, irritability, muscle tension, and sleep disturbances.²⁷⁶ Restorative yoga is a therapeutic form of yoga that emphasizes

²⁷² Ibid., 537.

²⁷³ Ibid., 541.

²⁷⁴ Ibid., 540.

²⁷⁵ Bo Forbes et al., "Yoga Therapy in Practice: Using Integrative Yoga Therapeutics in the Treatment of Comorbid Anxiety and Depression." *International Journal of Yoga Therapy*, 18 (2008): 88.

²⁷⁶ Ibid.

prone or supine postures supported by props such as blocks, blankets, and bolsters. Forbes was a student of Senior Iyengar Yoga teacher Patricia Walden for several years, and her approach to restorative yoga stems from the Iyengar Yoga tradition.²⁷⁷ Forbes writes that back-bending poses can be used to reverse the anatomical patterns of bad posture including rounded shoulders, and a kyphotic upper thoracic spine, two common symptoms that are also associated with depression. She recommends that those with an anxious physical body practice forward-bending or neutral restorative *asanas*, and suggests resting the forehead on a bolster for support.²⁷⁸ The restorative forward-bending *asanas* used in this article include supported *balasana*, and *salamba bharadvajasana*, side-lying *savasana*, and *viparita karani*.²⁷⁹

When feeling anxious, Forbes recommends practicing 2:1 breathing (exhaling for twice as long as the inhalation), or more simply, exhaling longer than inhaling because it helps to slow the heart rate and calm the nerves. For a "slow and foggy nervous system" Forbes recommends equal and even inhales and exhales. These *pranayama* exercises tone the vagus nerve, the primary output nerve to the parasympathetic nervous system, and play a key role in mediating stress by activating a relaxation response.²⁸⁰ She states "through the practice of breath work, *asana*, and restorative Yoga, and through Yoga's focus on the present moment, people with affective disorders can learn to view their fluctuations in anxiety and depression as

²⁷⁷ Ibid., 91.

²⁷⁸ Ibid.

²⁷⁹ Ibid.

²⁸⁰ Ibid., 93.

passing, rather than permanent, states of consciousness..."²⁸¹ Her research indicates that yoga is helpful for alleviating anxiety and depression on multiple levels including thoughts, emotions, and the functioning of the nervous system.²⁸²

In the pilot study "A Yoga Intervention for Young Adults With Elevated Symptoms of Depression," Woolery et al. examined the effects of a five-week Iyengar Yoga course on the symptoms of depression in mildly depressed young adults. They tested how the practice of physical postures, as opposed to breathing and meditation impacts mood in persons suffering from depression. *Asanas* that open and lift the chest, particularly back bends, inversions, and rigorous standing poses were found to be most effective in alleviating symptoms of depression.²⁸³ The authors posit that the chest-opening *asanas* used in their study may counter the slumped body posture associated with depression and note that several psychological studies support a connection between open body posture and positive mood.²⁸⁴

Shapiro and Cline came to a similar conclusion in their article "Mood Changes Associated with Iyengar Yoga Practices: A Pilot Study," published in 2004. The main objective of this study was to test the hypothesis derived from Iyengar Yoga that the practice of backbends results in increased positive emotional states and decreased negative emotional states. To test this, the authors compared the emotional state of practicing the backbends *ustrasana* and *urdhva mukha svanasana* with those of forward

²⁸¹ Ibid., 95.

²⁸² Ibid., 89.

²⁸³ Alison Woolery et al., "A Yoga Intervention for Young Adults with Elevated Symptoms of Depression." *Alternative Therapies* 10, no. 2 (2004): 60.

²⁸⁴ Ibid., 62.

bends *adho mukha svanasana*, *janu sirsasana*, *paschimottanasana*, and the standing poses *utthita trikonasana*, *utthita parsvakonasana*, and *virabhadrasana I*.²⁸⁵ The study consisted of nine yoga classes, each approximately 90 minute class focused on one of the three types of poses: standing poses forward bends or back bends. The results indicate that forward bends and back bends increase feelings of confidence and positive emotions. Shapiro and Cline also hypothesized that mood changes associated with different *asanas* would be related to personality traits. To test this, they examined individual differences in anxiety, depression, and hostility. They found that participants suffering from higher levels of anxiety and depression experience the greatest decrease in negative moods, including irritation, pessimism, and frustration, from pre-Iyengar Yoga class to post Iyengar Yoga class.²⁸⁶ The authors note that “the more hostile the subject, the more confident the subject felt after doing back bends compared to other poses...subjects who scored higher on the depression scale were more likely to report feeling more confident and less fatigued after doing back bends than after other poses.”²⁸⁷

Back bends open and expand the chest, which the authors note is an expression in our culture associated with confidence and positive assertion. The open position of the chest during a backbend is the antithesis of the turned-in and downward bodily attitude typically associated with depression and sadness.²⁸⁸ Shapiro and Cline speculate “...the expansion of the chest in back bends may facilitate deeper breathing and [is]

²⁸⁵ Shapiro and Cline, “Mood Changes Associated with Iyengar Yoga Practices,” 36.

²⁸⁶ *Ibid.*, 41.

²⁸⁷ *Ibid.*

²⁸⁸ *Ibid.*, 42.

possibly associated with changes in autonomic nervous system activity such as increased vagal tone (vagus nerve) and slower heart rate, which may enhance positive emotions."²⁸⁹ The authors assert that emotional disorders are major health problems, and based on the elements of yoga that many sports psychologists associate with stress reduction, research into the emotional processes of yoga warrants further investigation.²⁹⁰ This pilot study is just one example of a type of treatment that does not occur in Western medicine.

In “A Single Session of an Integrated Yoga Program and Stress Management Tool for School Employees: Comparison of Daily Practice and Nondaily Practice of a Yoga Therapy Program,” Nosaka and Okamura conclude that an integrated yoga program is an effective way to reduce stress and promote the mental health of school employees. The ninety subjects participated in one three-hour educational session that included information about yoga theory, ancient Indian philosophy, *asanas*, *pranayama*, chanting of sacred verses, and relaxation. The physical training portion focused on controlling stress, shoulder stiffness, and lower back pain. Following the session, participants were encouraged to practice independently on a daily basis for three months.²⁹¹ Although the authors do not include a list of yoga *asanas* or *pranayama* exercises introduced in the educational session, their publication includes diagrams of *savasana*, *jathara parivritti*, *tadasana* with arm circles, and *Vajrasana* with neck

²⁸⁹ Ibid.

²⁹⁰ Ibid., 43.

²⁹¹ Nosaka and Okumura, “A Single Session of an Integrated Yoga Program as a Stress Management Tool for School Employees,” 445.

rotations.²⁹² Their results show that practicing yoga is an effective way to improve mental health, including somatic symptoms, anxiety, insomnia, and social dysfunction.²⁹³

According to "Effects of Using Relaxation Breathing Training to Reduce Music Performance Anxiety in 3rd to 6th Graders," by Yu-Huei Su et al., music performance anxiety (MPA), also referred to as "stage fright," refers to the increasing anxiety and insecurity of individuals who perform in public. The authors note: "When an individual faces anxiety or fear, the sympathetic branch of the autonomic nervous system begins to work harder and causes symptoms such as increased heart rate, respiration, dizziness, and muscle tension."²⁹⁴ The authors explain that while these reactions may be beneficial in the "fight-or-flight" response, they may interfere with the delicate mental and physical tasks involved in playing an instrument. Su et al. assert that performance anxiety can affect the quality of performance, and can also destroy self-esteem. Breath control exercises can be used for relaxation and can release muscle tension especially when combined with activities like yoga. Several psychological treatments use breathing exercises for managing mania, anxiety, depression, and occupational stress.²⁹⁵ The results of this study indicate that breath control exercises are an effective means of releasing stress and help to increase the function of the parasympathetic nervous system

²⁹² Ibid., 446.

²⁹³ Ibid., 448.

²⁹⁴ Yu-Huei Su et al., "Effects of Using Relaxation Breathing Training to Reduce Music Performance Anxiety in 3rd to 6th Graders." *Medical Problems of Performing Artists* 25, no. 2 (2010): 82.

²⁹⁵ Ibid.

creating a sense of calm and relaxation before a performance.²⁹⁶ The authors claim that relaxation-breathing training is associated with decreased MPA in talented young performers, and is particularly helpful immediately preceding a performance. They note that learning how to manage or reduce MPA as early as possible is vital.²⁹⁷

Stern et al. published "A Yoga Intervention for Music Performance Anxiety in Conservatory Students," in 2012 in collaboration with the Tanglewood Institute, the summer music-training program for young musicians. This study offered a nine-week yoga intervention consisting of fourteen 60-minute yoga classes and a guided home practice, to examine the effectiveness of yoga in reducing MPA. The authors explain that "Yoga is a holistic mind-body practice that includes cognitive (meditation) and somatic (physical postures and breathing exercises) elements, and has been described as an 'attractive therapeutic' option for anxiety and anxiety disorders..."²⁹⁸ Their results indicate that yoga is a promising way to help decrease performance anxiety in student musicians and may be a cost-effective and efficient addition to music school curriculum.²⁹⁹

In "Yoga Ameliorates Performance Anxiety and Mood Disturbance in Young Professional Musicians," Sat Bir S. Khalsa et al. collaborated with the Tanglewood Music Festival to evaluate the benefits of a two-month yoga and meditation program. The participants were divided into three groups: a yoga lifestyle intervention, a group

²⁹⁶ Ibid., 83.

²⁹⁷ Ibid., 85.

²⁹⁸ Judith Stern et al., "A Yoga Intervention for Music Performance Anxiety in Conservatory Students." *Medical Problems of Performing Artists* 27, no. 3 (2012): 123.

²⁹⁹ Ibid., 127.

practicing only yoga and meditation, and a control group. All participants answered a self-reported questionnaire at the beginning and end of the trial program evaluating MPA, mood, PRMDs, perceived stress, and sleep quality. Both the yoga lifestyle, and yoga and meditation only groups showed less performance anxiety, and significantly reduced general anxiety, tension, and depression at the end of the program.³⁰⁰ Several participants displayed some improvement in flexibility and strength at the end of the program, and many reported diminished physical tension. A number of the participants credited yoga with reduced levels of fatigue and a boost in their ability to handle the intense work schedule at the music festival. Several of the yoga lifestyle group members found that breath control techniques helped them more effectively manage pre-performance anxiety and also contributed to increased self-confidence.³⁰¹ The results of this study suggest that yoga and breath control can reduce MPA and mood disturbances in young professional musicians. The fact that both groups practicing yoga reported equal benefits in this study indicates that any addition of yoga to one's daily habits may be beneficial.

³⁰⁰ Sat Bir S. Khalsa et al., "Yoga Ameliorates Performance Anxiety and Mood Disturbance in Young Professional Musicians." *Applied Psychophysiology and Biofeedback* 34, no. 4 (2009): 279.

³⁰¹ Ibid.

Summary

Yoga is considered an excellent and cost-effective way to prevent and ease symptoms of injury and anxiety. It is effective in the treatment of carpal tunnel syndrome, rotator cuff tears, lower back pain, depression, migraines, and performance anxiety. Based on the types and locations of injuries, and attention to anxiety disorders, the research suggests that yoga is capable of relieving or preventing many of the physical ailments that violinists regularly confront in their instrumental endeavors. Based on the findings in this chapter and the previous chapter, the final chapter applies Iyengar Yoga to common PRMDs, pain, and physical manifestations of MPA that regularly confront violinists.

Chapter 6: Honoring Menuhin, A Yoga Program for Violinists

Review

This chapter pays tribute to the groundbreaking work of Menuhin and Iyengar by consulting the sources and recommendations used in chapters three, four, and five to offer Iyengar Yoga-based *asana* recommendations to enhance violin playing and prevent potential injuries and pain. This chapter focuses on the preventative potential of using Iyengar Yoga in the practice setting, rehearsal, private lesson, and performance environment. Each of these situations is unique and characterized by specific demands that include posture, strength, endurance, anxiety, focus, and concentration. Several of these issues require daily attention, and the practice setting is an ideal environment to implement them. Strength, posture, and endurance, for example, are elements of playing the violin that require regular attention. The demands of an ensemble rehearsal are similar in many ways, requiring endurance, focus, concentration and proper seated playing posture with limited space to move or warm up prior to rehearsal. Teaching students a positive foundation, and helping them focus, concentrate, and improve their bodily awareness is essential to a productive learning environment. Performance anxiety is also a serious consideration and is reflected in the preparation immediately before a performance. The ability to manage stress ensures a comfortable performance where one feels in control of the somatic musical and non-musical elements of the performance.

Tribute to Menuhin and Iyengar

After discovering yoga and working with Iyengar, Menuhin incorporated yoga into his daily routine for the rest of his life. The ultimate longevity of his career, which spanned several decades and a variety of musical endeavors, connotes that yoga offers a multitude of preventative and therapeutic benefits for those who practice it regularly. The *asanas* and *pranayama* exercises included in this chapter are intended to provide an easy integration of yoga into musical life. These recommendations are simple, introductory *asanas* that require no supervision and offer a multitude of benefits. A yoga mat and blocks are the only props necessary. This chapter references *Yoga Anatomy* by Leslie Kaminoff and Amy Matthews for anatomical information regarding each pose.³⁰² The recommendations for each environment include a brief explanation regarding the choice of yoga *asanas* suggested for private practice, rehearsal, teaching a lesson, or as performance preparation. The recommendations are in the form of a chart listing the Sanskrit name, the English translation, the relevant anatomy for violin playing as explained in *Yoga Anatomy*, the benefits of each pose as described by B.K.S. Iyengar in *Light on Yoga* and *Yoga: The Path to Holistic Health*, and the image number for a corresponding photograph in Appendix A.

³⁰² Leslie Kaminoff and Amy Matthews, *Yoga Anatomy* (Champaign, IL: Human Kinetics, 2012).

The Practice Room

The focus of these suggestions is to provide a warm-up for practice and enhance physical fitness. Janet Horvath writes, "An untuned body is more injury prone because it is less resilient. Muscles that are tight and weak are at greater risk than strong, flexible muscles. Conditioning, flexibility, endurance, muscle balance, body alignment, and strength – are all factors...injury risk is directly related to fitness levels."³⁰³ As explained in chapter five, yoga is an effective tool for increasing physical fitness, stretching tight muscles, and strengthening core stability.

Good posture begins with a solid foundation. As Menuhin states in *Violin: Six Lessons with Yehudi Menuhin*, "The basis of a good posture is an upward stretching from the toes through the spine to the crown of the head, in which our muscles counteract the natural collapsing tendency of the joints as they surrender to the force of gravity. This erect position is as much a sign of good health in violin playing, as it is of vitality and good health in life."³⁰⁴ Many of these *asanas* strengthen the core and back muscles promoting good posture in both the seated and standing playing position. The muscles of the shoulders and back are the primary stabilizing muscles used in the simultaneous static and dynamic strength required to play the violin. The recommendations put forth in this section draw on the information and concepts set forth by Nicole DeAvilla regarding FDRSS,³⁰⁵ and Julie Gudmestad's assertion that

³⁰³ Horvath, *Playing (less) Hurt*, 23.

³⁰⁴ Menuhin, *Violin: Six Lessons with Yehudi Menuhin*, 18.

³⁰⁵ DeAvilla, "Case Studies of Yoga Therapy with Focused Downward Release and Scapular Stabilization in Shoulder Injuries," 65.

practicing *adho mukha svanasana* with proper alignment, engaging the muscles of the rotator cuff (see Figure 5.2 and 5.3) reduces the risk of potential shoulder injuries.³⁰⁶ Poses that focus on the lower body are an excellent way to warm up before practice. Shapter writes that standing poses strengthen and stretch the lower limbs, helping to maintain healthy circulation and also provide tremendous benefits to the upper body, expanding the chest and relieving stiffness in the shoulders, neck, and back.³⁰⁷

Physical health is only one aspect of a successful practice session. The necessary concentration to complete thoughtful and productive work also requires mental clarity and stimulation. Several musicians use *asanas* to increase focus and concentration. In *Musician's Yoga*, Olson states, "Balancing exercises help increase focus and concentration. They also help our mind-body connection."³⁰⁸ *Pranayama* is an effective way to energize the mind. Su et al. explain that breath control exercises are an effective means of releasing stress and help to increase the function of the parasympathetic nervous system creating calm, concentration, and relaxation.³⁰⁹

Ideally one can commit thirty minutes or more each day to conditioning the body, but these recommendations can also be completed in less time if necessary. One should attempt each *asana* for a minimum of four breath cycles (one breath cycle consists of one complete inhalation and one complete exhalation) before moving on to the next pose. *Pranayama* exercises may require more practice to feel the full effects.

³⁰⁶ Gudmestad, "Shoulder Saver," 113.

³⁰⁷ Shapter, "Injury Prevention and Healing Through Yoga," 143-144.

³⁰⁸ Olson, *Musician's Yoga*, 91.

³⁰⁹ Su et al., "Effects of Using Relaxation Breathing Training to Reduce Music Performance Anxiety in 3rd to 6th Graders," 82-83.

Table 6.1 Iyengar Yoga for the Practice Room

| Sanskrit | Translation | Anatomy | Benefits | Appendix No. |
|------------------------------|--------------------------|---|--|---------------------|
| <i>Ujjayi Pranayama</i> | Life Energy Breath | Lungs and Diaphragm | Relieves depression and boosts confidence, invigorates nervous system | A.1 |
| <i>Tadasana</i> | Mountain Pose | Neutral, Even distribution of weight | Corrects bad posture, Improves alignment of the body, teaches body awareness, counters the degenerative effects of aging on the legs, spine, and feet | A.3 |
| <i>Vrksasana</i> | Tree Pose | Psoas minor, Iliacus | Tones the leg muscles, gives a sense of balance and poise. | A.26 |
| <i>Uthita Trikonasana</i> | Extended Triangle Pose | Triceps brachii, Internal oblique, Sternocleidomastoid | Improves the flexibility of the spine, alleviates backache, corrects alignment of the shoulders. | A.7 |
| <i>Uthita Parsvakonasana</i> | Extended Side Angle Pose | Triceps brachii, Serratus anterior, internal oblique, external oblique | Tones the muscles of the heart, relieves sciatic and arthritic pain, improves digestion, stretches both sides of the body from foot to fingertips. | A.8 |
| <i>Virabhadrasana I</i> | Warrior I | Deltoid, Pectoralis major, Pectoralis minor, Erector spinae, Serratus anterior, Latissimus dorsi, Rectus abdominus, Psoas major | Relieves backache, lumbago, and sciatica, strengthens the back muscles, expands the muscles of your chest and enhances lung capacity. | A.9 |
| <i>Virabhadrasana II</i> | Warrior II | Sternocleidomastoid, Plexus nerves, Scalenes, Pectoralis minor | Improves breathing capacity by expanding the chest, relieves lower back pain, reduces stiffness in the back and shoulders, makes the knee and hip joints more flexible. Regular practice of this asana helps develop strength and endurance. | A.10 |

| <i>Sanskrit</i> | Translation | Anatomy | Benefits | Appendix No. |
|-----------------------------|--------------------------|--|--|---------------------|
| <i>Virabhadrasana III</i> | Warrior III | Spinal extensors, Gluteus maximus | Contracts and tones the abdominal organs, improves posture, strengthens the legs, gives agility to the body and mind. | A.25 |
| <i>Utkatasana</i> | Chair Pose | Extensor Digitorum, Triceps brachii, Deltoid, Infraspinatus, Teres minor, Serratus anterior, Rectus abdominus, Erector spinae | Removes stiffness in the shoulders, diaphragm is lifted, abdominal organs and back are toned, the chest is fully expanded. | A.11 |
| <i>Garudhasana</i> | Eagle Pose | Trapezius, Infraspinatus, Teres minor, Teres major, Latissimus dorsi, Serratus anterior, Quadratus lumborum | Removes stiffness in the shoulders, develops the ankles, removes cramps in the legs | A.24 |
| <i>Natrajasana</i> | Lord of the Dance Pose | Deltoid, Teres minor, Serratus anterior, Spinal extensors, Pectoralis major, Subscapularis, Serratus anterior, Intercostals, Psoas, Rectus abdominus | Tones and strengthens the legs, the shoulder blades use full movement, chest expands fully, rejuvenates vertebrae of the spine. | A.23 |
| <i>Parighasana</i> | Gate Pose | Latissimus Dorsi, Intercostals, External oblique, Tensor fasciae latae | Stretches the pelvic region, One side of the abdomen is extended while the other is laterally flexed. Sideways spinal movements help people suffering from stiff backs. | A.17 |
| <i>Ustrasana</i> | Camel Pose | Psoas major, Anterior neck muscles, Pectoralis minor, Deltoid, Pectoralis major, Pectus abdominus. | Helps Correct posture, improves blood circulation, tones the muscles of the back and spine, removes stiffness in the shoulders, back, and ankles, helps people in sedentary occupations who work entails bending forward for long periods. | A.20 |
| <i>Adho Mukha Svanasana</i> | Downward Facing Dog Pose | Latissimus dorsi, Deltoid, Triceps brachii, Serratus Anterior | Calms the brain and stimulates the nerves, slows the heartbeat, reduces stiffness in the shoulder blades, and shoulder joints. Holding this pose for one minute restores energy and rejuvenates the whole body. | A.22 |

| Sanskrit | Translation | Anatomy | Benefits | Appendix No. |
|------------------------------------|---------------------------------|---|---|---------------------|
| <i>Urdhva Mukha Svanasana</i> | Upward Facing Dog Pose | Infraspinatus, Triceps brachii, Spinal extensors, Iliacus | Rejuvenates the spine, relieves stiff back, lumbago, sciatica, and slipped or prolapsed discs in the spine, strengthens the spine, cures backaches, expands the chest, improves circulation in the pelvic area. | A.18 |
| <i>Dhanurasana</i> | Bow Pose | Deltoid, Pectoralis Major, Palmaris longus, Pronator teres, Flexor carpi radialis, Flexor carpi ulnaris | The spine is stretched back, brings elasticity to the spine and tones the abdominal organs, relieves symptoms of slipped discs. | A.19 |
| <i>Dandasana</i> | Staff Pose | Spinal extensors | Strengthens the muscles of the chest, tones the abdominal organs and walls, tones the spinal and leg muscles, improves seated posture, helps increase willpower and enhances emotional stability. | A.12 |
| <i>Navasana</i> | Boat Pose | Sternocleidomastoid, Rectus abdominus, Spinal extensors | Improves blood circulation in the abdomen, tones the abdominal muscles and organs, reduces lower backaches by strengthening the spinal muscles. | A.15 |
| <i>Ardha Navasana</i> | Half Boat Pose | Sternocleidomastoid, Rectus abdominus, Spinal extensors | Works on the liver, gall bladder, spleen, strengthens the lower back and abdominal muscles | A.16 |
| <i>Setu Bandha Sarvangasana</i> | Bridge Pose | Rectus abdominus, Gluteus maximus, Deltoid, | Removes the sprain on the neck, gives spine a backward movement. | A.21 |
| <i>Savasana with 1:1 Breathing</i> | Corpse pose with breath control | Total Body relaxation | Helps alleviate nervous tension, migraines, insomnia, and chronic fatigue syndrome, relaxes the body, soothes the nervous system and brings peace of mind | A.29 |

Rehearsal

These recommendations are meant to invigorate the violinist in preparation for rehearsal. Rehearsal requires focused concentration in a seated position, often with long periods of playing. The seated posture adopted during rehearsals requires strong abdominal muscles and lower back strength to keep the back straight. Poor alignment in the upper back and neck can also be an issue. According to Spahn et al., possible health risks for violinists are likely associated with the seated playing position.³¹⁰ The authors recommend integrating exercises that increase flexibility into the rehearsal setting to prevent "disadvantageous motor patterns" and diminish the effects of uneven load bearing due to playing position and orientation of the music stand.³¹¹

Standing poses such as *Virabhadrasana I* and II offer a multitude of benefits. They simultaneously exercise the torso, reduce stiffness in the neck and shoulders, relieve backaches, and make the hips and knee joints more flexible, and with regular practice, help develop strength and endurance.³¹² The following recommendations are helpful before rehearsal and during the rehearsal break, and can be completed all at once, or separately depending on time and space restrictions. Due to the nature of rehearsal spaces, these postures do not require any props and only minimal contact with the floor. Violinists should attempt to hold each *asana* for a minimum of three breath cycles and can practice seated *pranayama* for multiple inhalations and exhalations.

³¹⁰ Spahn et al., "Comparing Violinists' Body Movements While Standing, Sitting, and in Sitting Orientations to the Right or Left of a Music Stand," 93.

³¹¹ Ibid., 86.

³¹² Iyengar, *Yoga: The Path to Holistic Health*, 76-77.

Table 6.2 Iyengar Yoga for Rehearsal

| Sanskrit | Translation | Anatomy | Benefits | Appendix No. |
|--|---|--|---|--------------|
| <i>Tadasana</i> | Mountain pose | Neutral. Even distribution of weight | Corrects bad posture, Improves alignment of the body, teaches body awareness, counters the degenerative effects of aging on the legs, spine, and feet | A.3 |
| <i>Tadasana Paschima Namaskarasana</i> | Mountain pose with Reverse Prayer Hands | Latissimus dorsi, Teres major, Subscapularis, Rhomboids, Trapezius, Serratus anterior, Teres minor, Infraspinatus, Deltoid | Relieves cervical spondylosis, increases flexibility of the upper body, arms, elbows, and wrists. | A.4 |
| <i>Tadasana Garudasana</i> | Mountain pose with Eagle Pose arms | Trapezius, Infraspinatus, Teres minor, Teres major, Latissimus dorsi, Serratus anterior. | Removes stiffness in the shoulders. | A.6 |
| <i>Tadasana Gomukhasana</i> | Mountain pose with Cow-Faced Pose arms | Teres minor, Rhomboids, Latissimus dorsi, Subscapularis, Posterior deltoid, Triceps brachii | Boosts confidence, helps treat depression, opens chest and improves breathing, activates muscles of the shoulders and back, stretches arms, relieves arthritis in the shoulders, elbows, wrists, and fingers. | A.5 |
| <i>Virabhadrasana I</i> | Warrior I | Deltoid, Pectoralis major, Pectoralis minor, Serratus anterior, Latissimus dorsi, Rectus abdominus, Psoas major | Relieves backache, lumbago, and sciatica, strengthens the back muscles, expands the muscles of your chest and enhances lung capacity. | A.9 |

| Sanskrit | Translation | Anatomy | Benefits | Appendix No. |
|-----------------------------|--|--|--|--------------|
| <i>Virabhadrasana II</i> | Warrior II | Sternocleidomastoid, Plexus nerves, Scalenes, Pectoralis minor | Improves breathing capacity by expanding the chest, relieves lower back pain, reduces stiffness in the back and shoulders, makes the knee and hip joints more flexible. Regular practice of this asana helps develop strength and endurance. | A.10 |
| <i>Adho Mukha Svanasana</i> | Downward Facing Dog | Latissimus dorsi, Deltoid, Triceps brachii, Serratus Anterior | Calms the brain and stimulates the nerves, slows the heart rate, reduces stiffness in the shoulder blades, and shoulder joints. Holding this pose for one minute restores energy and rejuvenates the whole body | A.22 |
| <i>Natrajasana</i> | Lord of the Dance Pose | Deltoid, Teres minor, Serratus anterior, Spinal extensors, Pectoralis major, subscapularis, Serratus anterior, Intercostals, Psoas, Rectus abdominus | Tones and strengthens the legs, the shoulder blades use full movement, chest expands fully, rejuvenates vertebrae of the spine. | A.23 |
| <i>Ardha Uttanasana</i> | Standing Half Forward Bend | Hamstrings, Spinal muscles, Piriformis | Reduces depression, cures insomnia and relieves fatigue, Increases blood flow to the brain, and sympathetic nervous system, relieves migraines and stress-related headaches, strengthens and | A.13 |
| <i>Seated Pranayama 1:1</i> | Seating Breathing Exercise with even inhalations and exhalations | Lungs, Chest and Diaphragm | Aerates the lungs, gives endurance, soothes the nerves, tones the nervous system. | A.1 |

Lesson

Preparing a student for optimal learning is difficult. Depending on the age of the student, their body might be growing and changing rapidly. Maintaining a level of body awareness is essential to overcoming potential pitfalls in the learning process that could result in undue tension in the body or elicit incorrect posture with or without the violin. Often, the student has already participated in numerous activities throughout the day and might be tired, unable to focus or struggling to maintain good posture due to fatigue *pranayama*. Conversely, the student may be overly energized and unable to concentrate. These recommendations are short and intended to last no more than five to ten minutes because time and space are often particularly limited in the lesson setting. Iyengar states that any person can practice yoga at any age irrespective of sex or physical condition.³¹³ The *asanas* and *pranayama* exercises suggested here are suitable for students of all ages and abilities and address the needs of students suffering from low energy levels and students with high energy levels at the beginning of their lesson.

³¹³ Ibid., 43.

Table 6.3 Iyengar Yoga for Students with Low Energy

| Sanskrit | Translation | Anatomy | Benefits | Appendix No. |
|-------------------------|------------------------|--|---|---------------------|
| <i>Ujjayi Pranayama</i> | Breath of Victory | Lungs and Diaphragm | Relieves depression and boosts confidence, invigorates nervous system | A.1 |
| <i>Tadasana</i> | Mountain Pose | Neutral. Even distribution of weight | Corrects bad posture, Improves alignment of the body, teaches body awareness, counters the degenerative effects of aging on the legs, spine, and feet | A.3 |
| <i>Utkatasana</i> | Chair Pose | Extensor Digitorum, Triceps brachii, Deltoid, Infraspinatus, Teres minor, Serratus anterior, Rectus abdominus, Erector spinae | Removes stiffness in the shoulders, diaphragm is lifted, abdominal organs and back are toned, the chest is fully expanded. | A.11 |
| <i>Natarajasana</i> | Lord of the Dance Pose | Deltoid, Teres minor, Serratus anterior, Spinal extensors, Pectoralis major, subscapularis, Serratus anterior, Intercostals, Psoas, Rectus abdominus | Tones and strengthens the legs, the shoulder blades use full movement, chest expands fully, rejuvenates vertebrae of the spine. | A.23 |
| <i>Vrksasana</i> | Tree Pose | Psoas minor, Iliacus | Tones the leg muscles, gives a sense of balance and poise. | A.26 |

Table 6.4 Iyengar Yoga for Students with High Energy

| Sanskrit | Translation | Anatomy | Benefits | Appendix No. |
|-----------------------------|--|---|---|--------------|
| <i>Seated Pranayama 2:1</i> | Seated breathing control exercise with 2:1 exhalations | Lungs, Diaphragm, Chest | Helps alleviate nervous tension, migraines, insomnia, relaxes the body, soothes the nervous system and brings peace of mind | A.1 |
| <i>Tadasana</i> | Mountain Pose | Neutral. Even distribution of weight | Corrects bad posture, Improves alignment of the body, teaches body awareness, counters the degenerative effects of aging on the legs, spine, and feet | A.3 |
| <i>Uttanasana</i> | Intense Forward Bending Pose | Piriformis, Spinal extensors, Psoas major, Gluteus maximus | Relieves mental and physical exhaustion, and slows the heartrate. Rejuvenates the spine, and calms the nerves. | A.14 |
| <i>Adho Mukha Svanasana</i> | Downward Facing Dog Pose | Latissimus dorsi, Deltoid, Triceps brachii, Serratus Anterior | Calms the brain and stimulates the nerves, slows the heartrate, reduces stiffness in the shoulder blades, and shoulder joints. Holding this pose for one minute restores energy and rejuvenates the whole body. | A.22 |

Performance

These *asana* and *pranayama* recommendations focus on calming pre-performance stage fright and anxiety. They focus on breath control and reducing undue tension in the body, particularly in the back, shoulders, arms, and neck. Su et al. explain that anxiety or fear activates the sympathetic branch of the autonomic nervous system causing symptoms that include “increased heart rate, respiration, dizziness, and muscle tension.” They explain that this may interfere with the mental and physical tasks involved in playing an instrument. Performance anxiety can affect the quality of performance, and can also destroy self-esteem.³¹⁴ These recommendations draw largely on the concepts of Restorative Yoga put forth by Bo Forbes discussed in chapter five. These poses and breathing exercises require minimal props and can be completed in performance attire, although executing them in loose, comfortable clothing is preferred. Performers should remain in each one of these poses or perform each breathing exercise until a feeling of calm relaxation overtakes any sense of anxiety. It is best to perform these postures and exercises within one hour before a performance. *Nahdi Sodhana* can be practiced at any time leading up to the performance because it increases the function of the parasympathetic nervous system.³¹⁵

³¹⁴ Su et al., “Effects of Using Relaxation Breathing Training to Reduce Music Performance Anxiety in 3rd to 6th Graders,” 82.

³¹⁵ *Ibid.*, 83.

Table 6.5 Iyengar Yoga for Performance

| Sanskrit | Translation | Anatomy | Benefits | Appendix No. |
|--|---|--|---|--------------|
| <i>Seated 2:1 Pranayama</i> | Seated breathing exercise with exhalations twice as long as inhalations | Lungs, Chest and Diaphragm | Aerates the lungs, gives endurance, soothes the nerves, tones the nervous system. | A.1 |
| <i>Tadasana Paschima Namaskarasana</i> | Mountain pose with Reverse Prayer Hands | Latissimus dorsi, Teres major, Subscapularis, Rhomboids, Trapezius, Serratus anterior, Teres minor, Infraspinatus, Deltoid | Relieves cervical spondylosis, increases flexibility of the upper body, arms, elbows, and wrists. | A.4 |
| <i>Adho Mukha Svanasana</i> | Downward Facing Dog Pose | Hamstrings, Gluteus maximus, Latissimus dorsi, Deltoid, Triceps brachii, Serratus anterior, | Calms the brain and stimulates the nerves, slows the heartrate, reduces stiffness in the shoulder blades, and shoulder joints. Holding this pose for one minute restores energy and rejuvenates the whole body | A.22 |
| <i>Ardha Uttanasana</i> | Standing Half Forward Bend Pose | Spinal extensors, Piriformis | Reduces depression, cures insomnia and relieves fatigue, Increases blood flow to the brain, and sympathetic nervous system, relieves migrains and stress-related headaches, strengthens and stretches the hamstring muscles | A.13 |
| <i>Balasana/Adho Mukha Virasana</i> | Child's Pose/Downward facing Hero Pose | Diaphragm, Spinal Extensors | A Restful pose. Pacifies the frontal brain, reduces stress, soothes the eyes and nerves, calms the mind. Relieves fatigue and headache, stretches and tones the spine, relieves back and neck pain. | A.27 |
| <i>Viparita Karani</i> | Legs Up the Wall Pose | Hamstrings, external obliques | Regulates blood pressure, helps treat stress-related headaches and migraines, relieves indigestion and nausea, alleviates nervous exhaustion, boosts confidence, reduces depression. | A.28 |
| <i>Nahdi Sodhana</i> | Subtle Nerve Cleansing Breath | Diaphragm, lungs, chest | Nerves are calmed and purified, body is refreshed, mind is still lucid. | A.2 |

Summary

Yoga is a versatile and effective physical therapy and means of improving flexibility, strength, and endurance. Many of the *asanas* listed in this chapter provide multiple benefits and are appropriate for a variety of settings. Menuhin, the first famous classical musician to practice yoga regularly, used it on tour, as a teaching tool, and when practicing at home. He claimed that Iyengar was his best violin teacher because he taught him about the body.³¹⁶

Mia Olson writes that there are many benefits to practicing yoga regularly and includes “increasing your energy and flexibility, strengthening and toning your body, releasing tension and stress, and improving balance and concentration.”³¹⁷ She explains that integrating yoga into one's practice routine builds overall awareness of the body and helps to prevent overuse injuries.³¹⁸ Lauryn Shapter explains that one of the primary benefits of practicing yoga is that it offers counter-movements that help prevent injuries and relieve current physical strains from years of repetitive motions.³¹⁹ Iyengar Yoga is unique in that each pose can be practiced individually or in combination with many other *asanas* for equal benefits. One can combine *asanas* in a variety of different ways to address multiple areas of the body, specific needs, or to combat particular ailments. In the appendix of *Yoga: The Path to Holistic Health* Iyengar details many sequences to

³¹⁶ Burton, *Yehudi Menuhin*, 466.

³¹⁷ Olson, *Musician's Yoga*, ix.

³¹⁸ Ibid.

³¹⁹ Shapter, “Injury Prevention and Healing Through Yoga,” 145.

address a variety of different concerns ranging from circulation problems to osteoarthritis. He writes, “Yoga can heal parts of our bodies that have been injured, traumatized, or simply ignored or neglected...Yoga asanas involve movements that stimulate injured parts of the body by increasing blood supply to them. The practice of asanas also increases our ability to bear pain.”³²⁰

Similarly, the final chapter of this document sets forth a series of *asanas* that address muscular weaknesses found in violinists and also enhance endurance, improve strength and flexibility, and calm performance nerves and anxiety. The *asana* recommendations combine the positive findings from yoga therapy studies with the teachings of Iyengar Yoga to address the specific needs of violinists. This dissertation is a tribute to the groundbreaking work of Yehudi Menuhin and adds to the research by utilizing current sources in the fields of performing arts medicine and yoga therapy to offer specific *asanas* and *pranayama* exercises for violinists in four distinct settings. This paper is the only source available that applies yoga to the needs of violinists in multiple playing environments.

³²⁰ Iyengar, *Yoga: The Path to Holistic Health*, 259.

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Appendix A: Photos of Asanas

Pranayama

A.1. Seated *Ujjayi Pranayama* or Seated *Pranayama* 2:1 or 1:1

This breathing exercise can also be performed while seated in a chair, or laying on the ground



A.2. *Nahdi Sodhana Pranayama* – Alternative Nostril Breathing



Standing

A.3 *Tadasana* – Mountain Pose



A.4 *Tadasana Paschima Namaskarasana* – Mountain Pose with Reverse prayer hands



A.5 *Tadasana Gomukhasana* – Mountain pose with Cow Faced pose arms.



A.6 *Tadasana Garudasana* – Mountain Pose with Eagle Pose Arms



A.7 *Utthita Trikonasana* – Extended Triangle Pose



A.8 *Utthita Parsvakonasana* – Extended Side Angle Pose



A.9 *Virabhadrasana I* – Warrior I Pose



A.10 *Virabhadrasana II* – Warrior II Pose



A.11 *Utkatasana* – Chair Pose



Forward Bends

A.12 *Dandasana* – Staff Pose



A.13 *Ardha Uttanasana* – Standing Half Forward Bend Pose



A.14 *Uttanasana* – Intense Forward Bending Pose



A.15 *Navasana* – Boat Pose



A.16 *Ardha Navasana* – Half Boat Pose



A.17 *Parighasana* – Gate Pose



Backbends

A.18 *Urdhva Mukha Svanasana* – Upward Facing Dog Pose



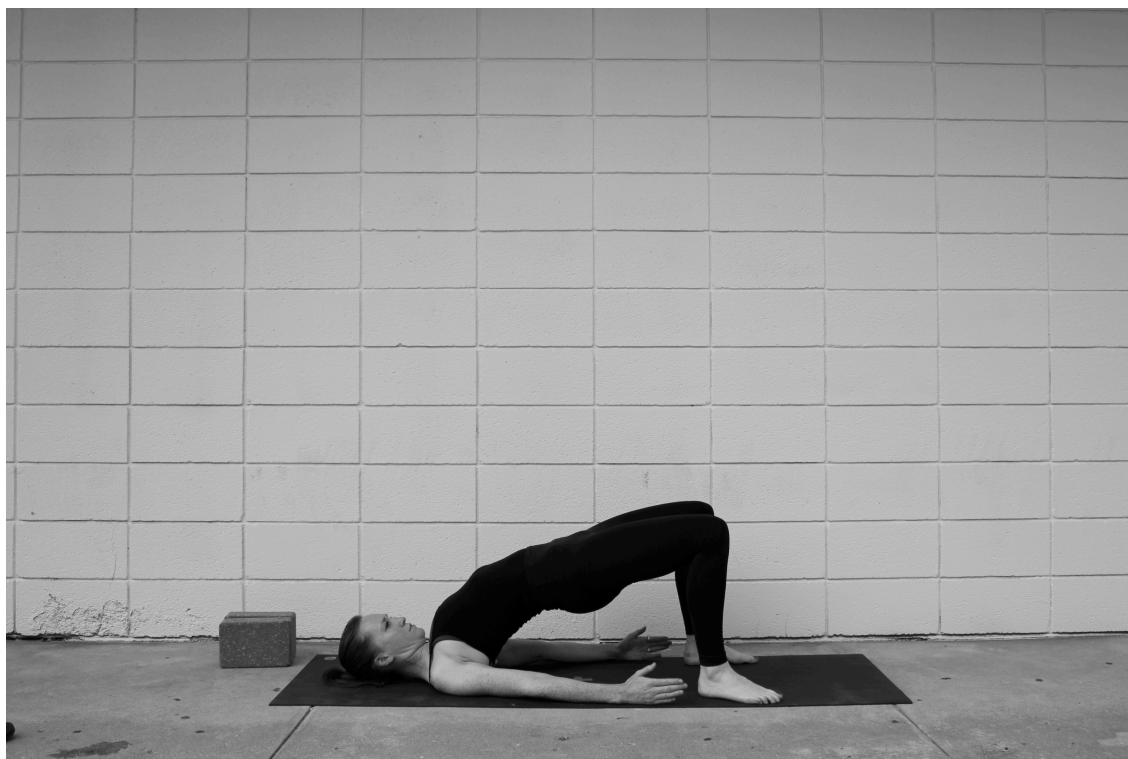
A.19 *Dhanurasana* – Bow Pose



A.20 *Ustrasana* – Camel Pose



A.21 *Setu Bandha Sarvangasana* – Bridge Pose



Inversions

A.22 *Adho Mukha Svanasana* – Downward Facing Dog Pose



Balancing

A.23 *Natrajasana* – Lord of the Dance Pose



A.24 *Garudasana* – Eagle Pose



A.25 *Virabhadrasana III* – Warrior III Pose



A.26 *Vrksasana* – Tree Pose



Resting

A.27 *Balāsana/Adho Mukha Virāsana* – Child’s Pose/Downward Facing Hero Pose

With block for head support



Without block for head support.



A.28 *Viparita Karani* – Legs Up the Wall Pose





A.29 *Savasana* – Corpse Pose

