Wellness Curriculum Outline

INTRODUCTION

The Committee on Wellness for the Pianist is pleased to present this second, revised version of the wellness curriculum outlined, originally created under the auspices of the National Conference on Keyboard Pedagogy in 2003. The authors hope that this outline will offer musicians a basic resource for integrating valuable wellness information into standard collegiate curricula, either as part of pedagogy or performance classes. While this outline is by no means comprehensive, it is intended to serve as a framework encompassing broad topical areas of music wellness as they pertain to the pianist. The discussion questions offered at the end of each section are intended to serve as catalysts for students and teachers to begin exploration within these broad areas. It is our objective to promote utilization of this outline as an important entrylevel tool for including this vital information as part of every pedagogy curriculum, making certain that our future teachers gain awareness of wellness issues and how to promote healthy music-making by themselves and their students. It should be noted that while this curriculum was designed by a committee comprised of pianists, it is broad in its scope and can be readily applied by all instrumental musicians.

Brenda Wristen served as the coordinator of both the original (2003) and revised (2007) wellness curriculum outlines. Contributors to the original document included Gail Berenson, Alice Brandfonbrener, Susan Bruckner, Madeline Bruser, Linda Cockey, Brenda Wristen, and Marcie Zinn. This revision is offered as an enhancement of the original document by the 2005-2007 Committee of Wellness for the Pianist:

Brenda Wristen, Committee Chair Gail Berenson Linda Cockey Carol Leone Barbara Lister-Sink Julie Jaffee Nagel Mission Statement: The mission of the Committee on Pianists and Wellness is three-pronged:

- 1. To promote wellness among all musicians.
- 2. To help prevent music-related injuries and psychological problems among student and professional pianists through education and dissemination of information.
- 3 To provide resources on musician health and wellness issues. Topics receiving attention include:
 - cultivating physical ease in playing: good coordination and efficient body use
 - developing mental clarity and focus during practice
 - nurturing feelings of self worth
 - promoting self-reliance
 - encouraging physical and mental health
 - fostering creativity and confidence
 - broadening expressive potential
 - utilyzing practice and performance strategies that reduce the risk of pain or injury.

It is of crucial importance to deal with students as unique individuals, each with his or her own set of strengths and weaknesses. We do not merely teach a student to play a musical instrument; we are also fostering their personal growth. However, our training and experience lies in music and in teaching. In the event of a physical injury or mental health issue, we should refer students to an appropriate health care provider.

I. Behavioral Aspects

- Practice Preparation
 - 1. Physical readiness for practice (not hungry, thirsty, etc.)
 - 2. Warm-ups (*Note: universal recommendation of stretching prior to activity is currently under scrutiny, particularly with regard to sports participation)
 - 3. Breathing techniques
 - 4. Setting appropriate goals
 - 5. Focusing mentally
- Practicing At the Instrument
 - 1. Setting goals
 - 2. Time management strategies
 - 3. Practice strategies to avoid fatigue and injury
 - 4. Practice strategies to develop interpretive ideas
 - 5. Concentration and listening
 - 6. Correlating physical motion with sound production
 - 7. Cool-down after practice
- Practicing Away From the Instrument
 - 1. Mapping
 - 2. Score analysis
 - 3. Mental rehearsal
 - General Lifestyle Issues
 - 1. Balancing work and recreation time
 - 2. Maintaining good nutrition
 - 3. Importance of exercise
 - 4. Getting enough sleep
 - 5. Avoidance of alcohol and addictive substances
 - 6. Identifying and addressing physical, emotional, and psychosocial stress factors

DISCUSSIONS QUESTIONS/TOPICS:

- 1. How can the mind be readied to focus on practice?
- 2. What habits and strategies help make practice more effective?
- 3. What are the important elements for organizing/structuring practice time?
- 4. What some signs of muscular or mental fatigue? How does fatigue affect practicing?
- 5. Name some common technical and/or musical challenges encountered in repertoire. What types of practice strategies can be used to solve these difficulties?
- 6. How can problems that continue to occur (i.e. missed notes, wrong notes, pauses or hesitations, inconsistencies in tempo) be solved?
- 7. What types of practice strategies work well in different situations (i.e., slow practice, hands separate practice, rhythmic alteration, etc.)?
- 9. What are some skills that can be used to cope with frustration during practice?

II. Physical Aspects

- Physical Laws
 - 1. Gravity
 - 2. Momentum

- Ergonomic Factors
 - 1. How keyboard design impacts motion
 - 2. Environment (temperature, space constraints, lighting, etc.)
 - 3. Posture
- Biomechanical Factors
 - 1. Basic functional anatomy
 - 2. Muscular activity
 - 3. Skeletal balance and alignment
 - 4. Principles of leverage
 - 5. Function of the Playing Apparatus
 - a. Torso
 - b. Back and Shoulders
 - c. Upper Arm
 - d. Forearm and forearm rotation
 - e. Use of the wrists
 - f. The hand and fingers
 - 6. Concentration and breathing
 - 7. Functional movement and coordination
 - 8. Role of kinesthetic activities
- Differences in Hand Size or Body Type
- Developmental Aspects
 - 1. Physical growth
 - 2. Interaction of cognitive abilities with motor skill development
- Genetic Predispositions
 - What Can Go Wrong
 - 1. Pain
 - 2. Numbness
 - 3. Swelling
 - 4. Weakness
 - 5. Loss of coordination
 - 6. Lack of endurance
 - 7. Inappropriate or excessive muscle activity
- Common Causes of Music-Related Pain or Injury
 - 1. Pushing body tissues past their biological limits (influence of genetic predisposition as well as general physical conditioning)
 - 2. Practicing repertoire that is inappropriate for hand size of the student or too far beyond his/her current level of technical or musical ability
 - 3. Suddenly increasing the time or intensity of practice
 - 4. Inefficient playing technique leading to over-accumulation of musculoskeletal stress

DISCUSSION QUESTIONS/TOPICS:

- 1. How can healthy technique be taught from the very first lesson?
- 2. How can teachers assess whether their students are "feeling" or internalizing healthy patterns of motion?

- 3. What are some indicators of inefficient technique?
- 4. Discuss how anatomy impacts playing your instrument. What are some possible solutions to the difficulties encountered?
- 5. What is the ideal posture for playing your instrument?
- 6. How does "hunching over" negatively affect torso movement and function of the arms, hand, and fingers? How does faulty posture interfere with musical expression?
- 7. How do the individual parts of the playing apparatus (torso, back and shoulder, upper arm, forearm, hand, and fingers) function? How do these parts function together?
- 8. How can a musician find a balance between too much and too little physical motion? What is the purpose of motion?
- 9. What does it mean to be "tense"? Is some tension appropriate when playing or singing? How can excess tension be avoided?
- 10. Discuss techniques to develop body awareness for a more balanced physical approach to your instrument or voice. What are some of the physiological things you need to work on with your instrument or voice?
- 11. What do muscles have to do with playing a musical instrument? How do single muscles contract and release? How do muscles function in groups?
- 12. Discuss the concept of pain as it relates to performance, practice and daily living. What are some key signs that something is wrong? What different types of pain can arise? What should be done if something hurts? If something just "doesn't feel right?"

III. Psychological Aspects

- Importance of Lesson Environment (Cultivating the Teacher Student/Relationship)
- Social Relationships
- Cognition and Principles of Learning
- Individual Learning Patterns (Learning Styles)
- Developmental Aspects (Cognitive, Emotional, and Psychosocial)
- Memory
- Performance Preparation
- Working toward Peak Performance
- Performance Anxiety and Management
- Generalized Anxiety and/or Depression and Management
- Stress Management

DISCUSSION QUESTIONS/TOPICS:

- 1. Describe a beneficial teaching environment. What are the hallmarks of an effective teacher/student relationship? What can teachers do to help reduce the student's anxiety and/or self-doubt during the lesson or during a performance?
- 3. What role does repetition have in the learning process?
- 4. Discuss strategies for memorizing music. How do these different strategies impact memorization? Does learning style correlate with preferred strategies for memorizing?
- 5. What is the difference between a memory (encoding) problem and a recall problem? What can be done to address each type of problem?
- 6. What do musicians mean when they refer to "stage presence?" How can musicians practice performing?
- 7. How might an individual's learning style/learning history affect how s/he prepares for a peak

performance?

- 8. What are some strategies for coping with performance anxiety? Does playing by memory relate to performance anxiety?
- 9. How does emotional and/or mental state affect the body? How do thoughts and perceptions influence physiology?
- 10. What are some indicators of stress and/or burnout? What are some stress-reduction techniques?
- 11. How can a less-than-ideal performance be turned into a positive experience?

IV. SOURCES OF HELP FOR MUSICIANS (*this is merely a resource list and does not represent a recommendation on the part of the authors)

- Performing Arts Medicine Physicians and Practitioners
- Physical and Occupational Therapists
- Massage Therapists
- Chiropractors/Applied Kinesiologists
- Edu-kinesthetics Specialists
- Acupuncturists
- Biomechnicists and Ergonomists
- Psychotherapists
- Bodywork Practitioners
 - 1. Alexander Technique
 - 2. Feldenkrais
 - 3. Laban Movement Analysis
 - 4. Bartenieff Fundamentals
 - 5. Rosen Method
 - 6. Body-Mind Centering

V. BASIC RESOURCES

General Sources:

Bishop, Dorothy. (1991) *The Musician as Athlete*. Kava Publications, 111 - 32nd Ave. N.W. Calgary, Alberta, Canada T2M 2P7 395pp. ISBN: 0-9695590-0-3.

Chaffin, Roger, Gabriela Imreh and Mary Crawford. (2002) *Practicing Perfection: Memory and Piano Performance*. Published by Lawrence Erlbaum Associates, Inc. 10 Industrial Avenue, Mahwah, NJ 07430 <u>www.erlbaum.com</u> 303 pp. ISBN: 0-8058-2610-6.

Culf, Nicola. (1998) *Musicians' Injuries: A Guide to their Understanding and Prevention*. Parapress LTD, 2 St Mary's Bungalow, Quarry Hill Worplesdon, Guildford, GU3 3RD, England. 106 pp. ISBN: 1-898594-62-7/paperback.

Fraser, Alan. (2003) *The Craft of Piano Playing: A New Approach to Piano Technique*. Published by Scarecrow Press, Inc. 4501 Forbes Boulevard, Suite 200, Lanham, Maryland 20706 Phone: (800) 462-6420 Fax: (717) 794-3803 Website: <u>www.scarecrowpress.com</u> 461 pp. ISBN: 0-8108-4591-1 (2006) DVD Published by Maple Grove Music Productions, 2 Milana Koma Avel, 21000 Novi Sad, Serbia, 90 minutes.web site: <u>http://craftofpiano.com/dvd.html</u>.

Gerig, Reginald R. (2007) *Famous Pianists and Their Technique, new edition*. Published by Indiana University Press. 601 North Morton Street, Bloomington, IN 47404-3797. <u>www.iupress.indiana.edu</u> 640 pp. ISBN: 13:978-0-253-34855-5.

Gordon, Stewart. (2006) *Mastering the Art of Performance: A Primer for Musicians*. Published by Oxford University Press, Inc. 198 Madison Avenue, New York, New York 10016 210 pp. ISBN: 13978-019-517743-5.

Green, Barry and Timothy Gallwey. (1986) *The Inner Game of Music*. Anchor Press. Bantam Doubleday Dell Publishing Group, Inc., 666 Fifth Ave, New York, NY 10103 225pp. ISBN: 0-385-23126-1.

Greene, Don, PH D. (2002) *Performance Success: Performing Your Best Under Pressure*. Published by Routledge, 29 West 35th Street, New York, NY 10001 and in Great Britain at 11 New Fetter Lane, London EC4P 4EE. Web site: <u>www.routledge-ny.com</u> for New York office and <u>www.routledge.com</u> for London office. 151 pp. ISBN: 0-87830-122-4.

Grindea, Carola (2001) *Healthy Piano Technique: To Prevent Physical Problems and Injuries and to Reduce Stress and Anxiety in Performance*. Published by Richard Schauer, Simrock House, 220 The Vale, London, NW11 8HZ, 2001.

Horvath, Janet. (2001/2002) *Playing (less) Hurt: An injury Prevention Guide for Musicians. Morris Publishing Guide for Musicians. Morris Publishing. 3212 E. Highway 30; Kearney, NE* 68847. 295 pp. ISBN: 0-9713735-0-7.

Maris, Barbara English. (2000) *Making Music At The Piano: Learning Strategies for Adult Students*. Published by Oxford University Press, Inc. 198 Madison Avenue, New York, NY 10016. <u>www.oup.com</u> 242pp. ISBN: 0-19-512326-3.

Mark, Thomas. (2003) What Every Pianist Needs to Know About the Body. Published by GIA Publications, Inc., 7404 S. Mason Ave., Chicago, IL 60638. <u>www.giamusic.com</u> 155pp. ISBN: 1-57999-206-4 and GIA Publications – G5883. Also distributed by Andover Educator, 4427 N. Willis Blvd., Portland, OR 97203 Phone: 1-877-553-1766 or <u>www.bodymap.org</u>.

Parncutt, Richard and Gary E. McPherson. (2002) *The Science and Psychology of Music Performance*. Published by Oxford University Press, Inc. 198 Madison Avenue, New York, NY 10016 <u>www.oup.com</u> 388 pp. ISBN: 0-19-513810-4.

Paull, Barbara and Christine Harrison. (1997) *The Athletic Musician: A Guide to Playing Without Pain.* Scarecrow Press, Inc., 4720 Boston Way, Lanham, Maryland 20706. 172 pp. (800) 462-6420. ISBN: 0-8108-3356-5 /paperback.

Salmon, Paul G. and Robert G. Meyer. *Notes from the Green Room: Coping with Stress and Anxiety in Musical Performance*. (1992, by Lexington books. 228 pp. ISBN: 0-669-25010-4)

Second printing published in 1998 by Jossey-Bass Inc., Publishers, 350 Sansome Street, San Francisco, CA 94104. Phone (888) 378-2537; Fax (800) 605-2665. www.josseybass.com 231pp. 405 pp. ISBN: 0-7879-4378-9 (pbk.).

Shockley, Rebecca Payne. (1997) *Mapping Music: For Faster Learning and Secure Memory A Guide for Piano Teachers and Students*. A-R Editions, Inc., 801 Deming Way, Madison, WI 53717. Telephone: 1-800-736-0070. Fax: 608-831-8200. Internet address: http://www.areditions.com 122pp. ISBN: 0-89579-397-0.

Westney, William. (2003) *The Perfect Wrong Note and Other Musical Breakthoughs*. Published by Amadeus Press, 133 S.W. Second Avenue, Suite 450, Portland, Oregon 97204-3527. Can be ordered through Hal Leonard Music Dispatch P.O. Box 13920, Milwaukee, WI 53213. Phone: (800) 637-2852 or Website: <u>www.amadeuspress.com</u> 240pp. ISBN: 1-57467-083-2.

• Journal

Medical Problems of Performing Artists. Published **Quarterly** by Science & Medicine, Inc. P.O. Box 313, Narberth, PA 19072. Phone (800) 888-0028, Fax (610) 660-0348, email: orders@sciandmed.com.

Online Databases

Annotated Bibliography on Musician Wellness compiled and annotated by Linda Cockey with Kathryn Kalmanson <u>www.mtna.org</u>

Lists books, journals, videos and web sites currently available on musician wellness. Each annotation gives an explanation of what the resource focuses on and how to obtain it. Updated annually in the June/July issue of the *American Music Teacher* journal.

<u>www.eric.ed.gov</u> Educational Resources Information Center contains diverse information about many aspects of education. Although this site can be accessed on PCs, libraries that subscribe to this site will have more information.

• Subscription Databases Available at Libraries

These are fairly easy to use and may contain useful information on certain topics:

AcademicSearch Premier (EBSCO)

Contains a wide blend of interdisciplinary topics. One of the easiest databases to use, compiling book reviews, and professional and popular journals (some full-text).

MEDLINE (National Library of Medicine)

Contains mostly periodicals. Rather difficult to use without some basic understanding of medical terminology. May need librarian assistance when using this database.

Lexis-Nexis Academic Universe (go to "medical" section); *Health Source Plus* (articles and reference book entries); *CINAHL* (Nursing and Allied Health index which includes sports medicine).

Health Source-Consumer Edition

Articles here are in non-technical language. Database also includes behavioral-type entries and materials on sports medicine.

Librarian assistance may be needed for these electronic databases:

PSYCHINFO

Published by the American Psychological Association, this is an index to the professional literature of psychology and clinical practice. Includes journal articles, books, conference papers and dissertations.

CSA Physical Education Index

Indexes a wide variety of professional journals and other literature. Kinesiology, motor learning, sports psychology and physical therapy are some of the major areas covered.

Professional Organizations

Performing Arts Medicine Association (PAMA)

www.artsmed.org/

Focuses on improving health care for performing artists through education, communication and research.

Performing Arts Psychology, a subspecialty of Applied Psychophysiology <u>www.performingartspsych.com</u> or <u>www.aapb.org</u> This is a new subspecialty for psychophysiological (mind-body) issues in performing arts.

Committee Sources

Berenson, Gail. "The Art of Communication: Nurturing Resourceful and Spirited Students." *Piano Pedagogy Forum*, Volume 1, No. 3 (1998).

Berenson, Gail and McBride Smith, Scott (2005) "Working for a More Musical Tomorrow," from ""Essential Skills for Promoting a Lifelong Love for Music and Music-Making" series, American Music Teacher, August/September, 2005, <u>www.mtna.org</u>.

Brandfonbrener, Alice G. "Memorization: A Learned Skill or an Inborn Talent?" Editorial, *Medical Problems of Performing Artists*, 16:3, 2001, 83-84.

Brandfonbrener, Alice G. "Joint Laxity and Arm Pain in a Large Clinical Sample of Musicians", *Medical Problems of Performing Artists*, 17:3, 2002, 113-115.

Bruckner, Susan. (2004) *The Whole Musician: A Multi-Sensory Guide to Practice, Performance and Pedagogy, 2nd edition.* Effey Street Press, 314 Effey Street, Santa Cruz, CA 95062. Web site: <u>www.effeystreet.com</u> 244pp.

Bruckner, Susan . "What Did I Learn Today? What Could I Have Learned Today"? *Keyboard Companion Magazine*, Winter 1997-98.

Bruser, Madeline. (1997) *The Art of Practicing A Guide to Making Music from the Heart*. Bell Tower News, 201 East 50th St., New York, NY 10022. Telephone: 212-572-2041. Fax 212-572-2662. 288pp. ISBN: 0-517-70822-1.

Cockey, Linda. "A Teaching Strategy for Healthier Performance." *American Music Teacher*, Volume 38, No. 3 (January, 1989).

Deahl, Lora and Brenda Wristen. "Strategies for Small-Handed Pianists" *American Music Teacher* Volume 52, no. 6 (June/July 2003).

Kropff, Kris, general editor. Gail Berenson, Jacqueline Csurgai-Schmitt, William DeVan, Dr.
Mitchell Elkiss, Seymour Fink, Phyllis Alpert Lehrer, Barbara Lister-Sink, Robert
Mayerovitch, Dr. Norman Rosen, Dylan Savage, Contributors, (2002) *A Symposium for Pianists* and Teachers: Strategies to Develop Mind and Body for Optimal Performance. Published by
Heritage Press (A division of the Lorenz Corporation), P.O. Box 802, Dayton, OH 45401-0802.
Web site: www.lorenz.com 275pp. ISBN: 0-8932-154-9.

Leone, Carol. "Goldilocks Had a Choice." *American Music Teacher* Volume 52, no.6 (June/July 2003).

Lister-Sink, Barbara (1996/2005) Freeing the Caged Bird - Developing Well-Coordinated, Injury-Preventive Piano Technique (DVD) WINGSOUND, P.O. Box 10912, Winston-Salem, NC 27108.

Lister-Sink, Barbara (2005) "Developing the Fundamental Skill: Healthful, Injury-Preventive Technique," from ""Essential Skills for Promoting a Lifelong Love for Music and Music-Making" series, American Music Teacher, April/May, 2005, <u>www.mtna.org.</u>

Nagel, J.J. Performance Anxiety and the Musician. (2006) <u>The American Psychoanalyst (TAP).</u> Vol. 40, No. 2, pp. 16;22.

Nagel, J.J., (in press) The Aural Road ,In J.J. Nagel (Ed).<u>American Imago</u>. Johns Hopkins University Press, Baltimore, Md.

Nagel, J.J. & Nagel, L., (2005) Animals, Music, and Psychoanalysis. In S. Akhtar & V. Volkan, (Eds.) Cultural Zoo: Animals in the Human Mind and its Sublimations, Madison Connecticut, IUP Press, pp. 177-206.

Nagel, J.J.. (2004) Stage fright theory and treatment: One size does not fit all. <u>Medical Problems</u> of <u>Performing Artists</u>. Vol. 19, No. 1, pp. 39-43.

Nagel, J.J. (1999) When is a Music Teacher More Than a Music Teacher?: Psychological Issues in the studio (invited article) <u>American Music Teacher</u>. (June/July).

Nagel, J.J. (1998) Injury and Pain in Performing Musicians: A Psychodynamic Diagnosis. In R.T.. Sataloff, A G. Brandfonbrener., R.J. Lederman, (Eds)**Performing Arts Medicine** (second edition), San Diego, Calif.: Singular Publishing Group, pp. 291-299.

Nagel, J.J. (1998) Injury and Pain in Performing Musicians: A Psychodynamic Perspective. <u>Bulletin of the Menninger Clinic.</u> Vol. 62, No. 1, winter.

Nagel, J.J. (1996) Stressbusters for Music Teachers. Piano and Keyboard. (Nov./Dec.).

Nagel, J.J. (1993) Stage Fright in Musicians: A Psychodynamic Perspective <u>Bulletin of the</u> <u>Menninger Clinic</u>, Vol. 57, No. 4 (fall).

Nagel, J.J. (1991) When Good Teaching Isn't Enough. American Music Teacher, Feb., Mar.

Nagel, J.J. (1990) Performance Anxiety and the Performing Musician: A Fear of Failure or a Fear of Success" <u>Medical Problems of Performing Artists</u>, Vol. 5, No. 1, (March).

Nagel, J.J. (1989) Musicians' Maladies (Correspondence) <u>New England Journal of Medicine</u>, Vol. 321, No. 1 (July).

Nagel, J.J., Himle, D.P., & Papsdorf, J. (1989) Cognitive-Behavioral Treatment of Musical Performance Anxiety. <u>Psychology of Music</u>, Vol. 17, No. 1.

Nagel, J.J. (1988) In Pursuit of Perfection: Career Choice and Performance Anxiety in Musicians. <u>Medical Problems of Performing Artists, Vol</u>. 3, No. 4, (Dec.).

Nagel, J.J. (1988) Identity and Career Choice in Music. <u>Journal of Cultural Economics</u>, Vol. 12, No. 2, Dec.

Nagel, J.J. (1987) An Examination of Commitment to Careers in Music. In <u>Artists and Cultural</u> <u>Consumers</u>, D.V. Shaw, W.S. Hendon, and C. R. Waits, (Eds.), Association for Cultural Economics., Vol, III.

Nagel, J.J. (1987) Is There A Choice in Career Choice in Music? Clavier, Vol. 26, No. 2.

Nagel, J.J. (1986-1988) "On Stage". A regular column in Clavier.

Nagel, J.J. (1985) Reducing Students' Stage Fright. The Australian String Teacher. Vol. 7, No. 4.

Nagel, J.J. (1984) Reducing Students' Stage Fright: Can Music Teachers Be Psychologists? <u>UPDATE: Journal for Research in Music Education.</u> Vol., 2, No. 3.

Nagel, J.J. (1981) Performance Anxiety. European Piano Teachers' Journal, Vol. 2, No. 5.

Nagel, J.J., Himle, D. and Papsdorf, J. (1981) Coping with Performance Anxiety. <u>The NATS</u> <u>Bulletin, Vol</u>. 37, No. 4.

Sataloff, Robert Thayer, **Alice G. Brandfonbrener** and Richard J. Lederman, editors. *Performing Arts Medicine*, 2nd edition. (1998) Singular Publishing Group, Inc. International Publishers for the Health Professions, 401 West "A" Street, Suite 325, San Diego, CA 92101-7904. (619) 238-6777; fax: (619) 238-6789. E-mail: singpub@mail.cerfnet.com Web site: www.singpub.com 436pp. ISBN: 1-56593-982-4.

Hallbeck, M.S., Wristen, B.G., Jung, M.-C., Trejo, A.E. and Wismer, A.K.G. ["]Muscular Activity and Comfort in Small-Handed Pianists: A Comparison of a 7/8-Sized Keyboard and a Full-Sized Keyboard." Submitted to *Applied Ergonomics*.

Wristen, B.G., Jung, M.-C. Wismer, A.K.G., and Hallbeck, M.S. "Assessment of Muscle Activity and Joint Angles in Small-Handed Pianists: A Pilot Study on the 7/8 Size Keyboard versus the Full-sized Keyboard" *Medical Problems of Performing Artists* v. 21 no 1(Mar 2006): 3-9.

Wristen, Brenda, Sharon Evans, and Nicholas Stergiou.(Mar. 2006) "Sight-Reading Versus Repertoire Performance On The Piano: A Case Study Using High Speed Motion Analysis." *Medical Problems of Performing Artists* v. 21 no. 1: 10-16.

Wristen, B. (Fall/Winter 2005). "Cognition and Motor Execution in Piano Sightreading: A Review of Literature." *Update: Applications of Research in Music Education* 24 (1): 44-56.

Wristen, B, Wismer, AKG, and Hallbeck, M.S (2005). Assessment of Muscle Activity and Joint Angles in Small-Handed Pianists: A Pilot Study on the 7/8 Keyboard Versus the Full-Sized Keyboard. *Proceedings of the Human Factors and Ergonomics Society*, 49th Annual Meeting, 1752-1756.

Wristen, B, and Lora Deahl (June/July 2003). "Strategies for Small-Handed Pianists." Coauthored with Lora Deahl. *American Music Teacher* v. 52 no. 6: 21-25.

Wristen, Brenda. "Preventing Piano-Related Overuse Injuries: A Proposed Theoretical Procedure For Biomechanical Analysis of Piano Technique." *Medical Problems of Performing Artists* (June 2000).

Wristen, Brenda. "Technical Exercises: Use Them or Lose Them?" *Piano Pedagogy Forum*: <u>http://www.music.sc.edu/departments/piano/ppf/</u> Volume 2, No. 3 (1999).

Zinn, Marcie L. (1995) *Healthy Piano Playing: A Revolutionary Guide to Self-Discovery at the Piano*. Affordable Visions Publishing, P.O. Box 682, St. Charles, IL 60174. 216pp. ISBN: 1-887718-41-9.

Zinn, M. L., & Zinn, M. A. (Eds.). (2002-03). "Performing Arts Psychophysiology through the lifespan" [Special issue]. *Biofeedback*, *30*(3-4).

Zinn, M. L., McCain, C., & Zinn, M. A. (2000). "Music Performance Anxiety and the High-Risk Model of Threat Perception". *Medical Problems of Performing Artists*, 15(2), 65-71.