

Crossing Borders and Joining Forces

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It is my privilege to join Joanne Loewy as Co-Editor-in-Chief of *Music and Medicine*. To familiarize the readership of what I bring to the journal, I am pleased to provide some insight based on history and perspective of the growth of music and medicine and my involvement in these domains for the past 25 years. As I see it, this new journal offers a peer-reviewed platform for interdisciplinary dialogue. *Music and Medicine* is the official organ of the International Association for Music and Medicine (IAMM). In my capacity as president of the International Society for Music in Medicine (ISMM), I welcome the opportunity for us to dialogue, thus strengthening our common goal. I see our goal as one of fostering and confirming the use of music and musical stimuli as a preventive, diagnostic, therapeutic, and rehabilitative means in clinical medicine and health care in general on a broad scale. *Music therapy* and *MusicMedicine* as defined below are still not part of routine therapeutic regimes in traditional medicine to the extent that scientific evidence and clinical experience can be expected to suggest. This is especially true when it comes to consideration of reimbursement by health insurance companies. However, the situation is gradually changing in some countries for the better. In my own country, Germany, the system of diagnosis-related groups serving as a basis for reimbursement of hospital care was introduced recently, and outpatient treatment is soon to follow.

In 2005, through collaborative efforts among music therapists and physicians, we have succeeded in having music therapy included on a regular basis for inpatient care in patients with chronic pain (multimodal pain therapy). This was only possible through joined efforts of MTs and MDs.

Past issues of *Music and Medicine* have addressed the development of music therapy in integrative medicine as well as music and medicine. I am pleased to offer a short history of MusicMedicine, which began in the summer of 1977, when Dr. Roland Droh, director of the Department of Anesthesiology at Sportkrankenhaus Hellersen, in Luedenscheid, Germany, asked a young medical student to study possible ways of alleviating perioperative pain, anxiety, and stress. Five years later, the first International MusicMedicine Symposium, titled "Anxiety Pain Music in Anesthesia," was held in Luedenscheid. Exceeding our expectations, speakers from various fields submitted presentations. Faculty members came from the United States, Japan, Poland, Switzerland, Austria, Canada, Norway, the Netherlands, and Germany. Soon it became obvious that it was not only worthwhile but a necessary venture to continue such interdisciplinary dialogue. Consequently, on the eve of December 3, 1982, the ISMM was founded. The ISMM later was incorporated as a nonprofit,

scientific, interdisciplinary organization, registered in Germany, devoted to understanding the mechanisms of music in medical treatment and improving the care of patients through research, education, and interdisciplinary communication. Members of the organization have developed to include health care professionals and scientists dedicated to these goals. The society sponsors scientific meetings and, through the years, has published journals and books. The central office of the organization is based out of Luedenscheid, Germany, and there are regional chapters based in the United States and Europe.

In the years following our incorporation, ISMM held eight international symposia in the United States (Rancho Mirage, California, in 1989; San Antonio, Texas, in 1994 and 1996), Australia (Melbourne in 1998), and Germany (Luedenscheid in 1982, 1984, and 1986; Hamburg in 2003). In the years between, special invited research workshops took place in Luedenscheid.

Books of proceedings, enlarged and peer reviewed, were published by Editiones Roche, Springer Heidelberg–New York, MMB Music St. Louis, and the University of Melbourne. MusicMedicine as a special subject was introduced into academic education exactly 10 years ago. I have had the privilege of working with music therapists in the Music Therapy Department at the University for Music and Drama Hamburg as a professor for MusicMedicine within the music therapy master course. Since then, MusicMedicine has been an integral part of the academic MT program.

What is MusicMedicine? Because there are a variety of terms in existence making use of music and medicine in different combinations, I will cite the definition we developed and that was further refined in 1989:

MusicMedicine is the scientific evaluation of musical stimuli in medical settings, especially through mathematical, physical, physiological, and medical research, as well as therapeutic application, in order to complement traditional medical treatment, with regard to the particular illness, medication, and procedures involved in each individual case (Spintge & Droh, 1989, pp. 1-3).

Looking back at the past 30 years, there have been numerous achievements in terms of scientific evidence, practicability of clinical programs, socioeconomic benefits, and the reputation of music therapy and music therapists working amid medical and scientific communities as well as within the general public and politics.

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Yet there is still a long way to go until we need not to apply for reimbursement of every single case and until hospitals and other health care institutions hire MTs as routine members of their staff.

Themes that have been scientifically elaborated comprise a wide range of topics from basic research to applied research and clinical programs. In the beginning, the use of music in medicine was brought forward by medical colleagues during and immediately after World War II (Gaston, 1968; Teirich, 1958). The foundation and basis of ISMM was the organized dialogue between music, music therapy, and traditional medicine.

The initial topics researched and discussed covered such areas as perioperative stress and anxiety in surgery and anesthesia, intraoperative music and postoperative well-being, vibroacoustic treatment as an anxiolytic, neurophysiological aspects of music perception, emotional effects of music in clinical settings, neurohormonal evaluation of music for anxiolysis, and music in psychosomatics (Spintge & Droh, 1983).

In the following years, this first exchange triggered a series of collaborative studies and projects, both interdisciplinary and international by nature. The growing network brought together physicians, music therapists, musicians, physicists, mathematicians, neurophysiologists, anthropologists, drug experts, and thanato-psychologists to conduct collaborative studies and to present such studies on ISMM's symposia.

In years following the first symposium, main emphasis was placed on certain areas of common interest:

- Neurophysiological aspects of central music processing, psychology of music, musical microstructure as related to function, music and enhancement of cognitive performance, and musical rhythm as major functional parameter were studied.
- Clinical areas of special interest included music in gerontopsychiatric care, music for patients with Alzheimer's disease, music against immune-related disorders, music in neonatal care, music and imagery, music in cancer care, music and dance in rehabilitation settings, and music in pain medicine.
- In addition, occupational health issues for musicians and dancers were discussed, and programs for coping strategies were proposed.

Approximately 20 years ago, initial meta-analyses were conducted dealing with the question of evidence in studies about music in medical treatment. A process of discussing definitions and standards for music therapy and MusicMedicine was initiated as early as 1989 at the first International Invitational Consensus Conference About Standards of Excellence in MusicMedicine, Music Therapy, and Related Research (Dileo, 1992).

Whereas up to the early 1990s, mainly electrophysiological tools and plasma-hormone analysis were used in neurophysiological research about central music processing in nonclinical and clinical conditions, recently, functional brain imaging techniques have moved into the forefront. ISMM had the privilege

to include the Brain Imaging Research Center at the University of Texas Health Science Center at San Antonio (UTHSCSA) into the steadily growing research network. This was facilitated and initiated by Donald Hodges, director of the Music Research Institute at the University of Texas at San Antonio. The ISMM symposium held in Texas 1994 comprised sessions dealing with MusicPhysiology, MusicMedicine, and performing arts medicine; established the Neuromusical Research Panel; and displayed special topics sessions about music and environment—the niche hypothesis, music and human behavior, questions of professionalization—as well as about future trends of all these topic areas with an outline of a curriculum that was established for MusicMedicine in academic education (Pratt, 1996a, 1996b) and an introduction of the Computer-Assisted Information Retrieval Service System as an information retrieval system of literature in MusicMedicine and music therapy (Eagle & Hodges, 1996). In 1996, the San Antonio ISMM Regional Chapter was founded as well as a special ISMM Task Force that I had the privilege to chair, on music and pain. In collaboration with the National Association of Music Therapy (NAMT), the Sixth International MusicMedicine Symposium was again held at UTHSCSA, presenting a couple of pioneering brain imaging studies and further research leading to the development of so-called neurologic music therapy (Thaut, McIntosh, & Rice, 1996). Nociception and music, Mozart music, and genetics and a variety of clinical applications were presented: pain in fibromyalgia and multiple sclerosis, stress and anxiety in patients with cancer and in palliative care, and music with patients in coma.

As it has always been the politics of ISMM to cover different cultural spheres and to foster exchange on a global scale, in 1998, the next symposium moved to Melbourne, Australia. In collaboration with the Australian Music Therapy Association (AMTA), hosted by the Faculty of Music and by the Faculty of Medicine, Dentistry, and Health Sciences of the University of Melbourne, additional topics were identified and discussed in the program: medical cost savings through music, enhancement of maturation in premature infants, palliative care, anti-violence programs in correctional services institutions, hospitalized infants, and Parkinson's disease (Pratt & Grocke, 1999).

The growing international network of experts dedicated to the field as well as the fast growing amount of research studies confirming evidence for musical interventions in medical settings led to the program of the eighth symposium, in Hamburg, Germany, in 2003. Topics dealt with urgent issues of the present situation in health care: oncology and chronic diseases; elderly patients with special demands or dementia; coaching and consulting in occupational settings; burned-out, traumatized refugees; posttraumatic stress disorders; and pain medicine. A special panel discussed the future of health care and the role of music therapy and MusicMedicine. Results and recommendations acknowledged the evidence of significant benefits that musical interventions provide in health care (Spintge, 2007).

The history of these highlighted areas of MusicMedicine have grown more and more important for the knowledge base we grow today and that will continue to thrive in the future.

Again, special emphasis was placed on issues of further developing standards for qualitative and quantitative research methods and mixed designs that interweave aspects of both of these models. Thus, a clear consensus statement following the 1989 declaration was again reconfirmed in more detail.

We can now analyze and describe quantitatively and qualitatively some important parts of music therapy processes, thus achieving reasonable and responsible control of this kind of therapeutic intervention. Music therapy, dance therapy, and art therapy in general are medical therapies, so they have to fulfill the same standards of excellence as any other medical therapy and must be subject to the same controls of effectiveness and quality. Of course, we always have to consider that art itself cannot be quantified, so there is often the need for a pure qualitative description of the therapeutic means used, and this can be done scientifically (O'Callaghan, 2009). However, the reputation of music therapy and music medicine and its acknowledgement by the medical community depends on how they meet the scientific and therapeutic standards of state-of-the-art health care and science within respective worldwide institutions of cultural and medical influence. The scientific instruments, musical realms, and methods are at our disposal. They should be used by interdisciplinary research teams, which will benefit from expertise of music therapists, music psychologists, psychologists, educators, physicians, biostatisticians, and other scientists. Looking at the historical development of the field, we can clearly state that we are moving from "alternative" to "complementary" and on to "integrative" medicine now (Loewy & Aldridge, 2009, p. 6), with musical interventions having their own right in such holistic approaches. This is one of the major achievements reached through combining expertise, dedication, and enthusiasm of not at least the membership of ISMM and IAMM. The issue before you is no exception.

In this issue, Gillian Sandstrom and Frank Russo investigate the effects of the valence and arousal dimensions of music across the time course of physiological (skin conductance level and heart rate) and subjective (Subjective Unit of Discomfort) recovery from an acute stressor. This exciting research suggests that music can be used to promote physiological and subjective recovery following acutely stressful episodes. The authors' research convincingly shows that the independent contributions of valence and arousal characteristics of music with both positive valence and low arousal are the most effective means of achieving recovery. A second article, by Frank Wendrich, Gernot Brauchle, and Roland Staudinger, studies the controlled induction of negative and positive emotions by means of singing, thus begun under the past premise of scientific significance that singing induces positive emotions and the evidence that recognizes that music listening can also induce negative emotions. In this study, the authors further investigate whether this is also the case for singing. They question whether it is possible to induce negative emotions in singers by selecting specific song performances. Their study delves into our basic understanding of the effects of singing. Their results bring awareness to those who may be involved in future studies and the growing population that uses music for health and well-being. The effect

of song content and our awareness of this controllable variable can have significance.

Joke Bradt's study on the effects of music entrainment on post-operative pain perception provides an interesting, first-of-its-kind quantitative measurement of a growing music therapy technique in an often-underserved population with regard to pain: pediatric patients. Recognizing that active, live music therapy interventions may be difficult to measure, Bradt's prowess in quantifying the pain-music effect is notable. She notes the need for research on the effectiveness of nonpharmacological pain management techniques for children and adolescents and, in particular, the effectiveness of live music therapy interventions. This study investigated the effects of music entrainment on postoperative pain perception in pediatric patients using music entrainment, an active music therapy improvisation approach, which borrows from physics' oscillating synchronous vibrational frequency.

Another article contributing to the pediatric science base in this issue is by María Jesús del Olmo, Cintia Rodríguez Garrido, and Francisco Ruza Tarrío, who conducted a random sample of 100 interventions in 0- to 6-month-old newborns in Madrid, Spain. They collected heart rate and oxygen saturation data before, during, and after an interaction with live music and before, during, and after an interaction without live music. Del Olmo et al. provide intense examination of live-music therapy intervention on heart rate, oxygen saturation, and respiratory rate in infants in the intensive care unit. This study highlights the importance of considering musical elements in the infant-adult interaction through emphasis on the use of live music as a semiotic mediator in this interaction.

Rodger Graham provides a unique cognitive-attentional perspective on the psychological benefits of listening. In viewing at the onset of his writing the current problems with standard cognitive-behavioral therapy from a psychological perspective, Graham outlines his emergent psychotherapy paradigm, which interweaves aspects of music, suggestion, and listening. His explanations, clinical rationale, and generous appendices may open doors for those who are looking to expand their understanding and approach to cognitive-behavioral therapy.

Also in this issue, María Montserrat Gimeno researches the effect of music and imagery on inducing relaxation and reducing nausea and emesis in patients with cancer undergoing chemotherapy treatment. The experimental treatment conditions, which included guided imagery with music or without music and which alternated across session conditions, were optimal. Participants were encouraged to listen to music at home, that is, to listen twice daily to CD recordings for relaxation. Gimeno's outcomes reflect important findings and substantiative potential on the impact that guided imagery with music may have both within the experimental intervention sessions as well as within home care conditions.

Finally, Susan E. Mazer's article topic is unarguably one of growing concern: the environment of noise and auditory considerations in the hospital arena. Her concern and objective is convincingly presented as she addresses our rationale for how we might seek to improve our auditory environment. Beginning with Florence Nightingale's view of a caring environment,

Mazer carefully reflects on the impact of noise and sound historically and clinically. Recognizing how the challenge of noise has been met with denial and neglect, Mazer seeks to provide strong rationale for us to recognize and address the substantive impact that sound and noise can have on the physiological stance of patients and the negative influence that noise can have within our daily practice as professional caregivers.

We are always standing on the shoulders of our pioneers. In this respect, I would like to personally express my gratitude to David Aldridge as one of the founding editors of the journal. We will pursue our mutual quest for fostering the development of music and medicine, as David has intended.

Following the statutes of ISMM to foster interdisciplinary exchange and support the introduction of music in medical settings wherever applicable, I decided to accept the invitation by my colleague editor, Joanne Loewy, and SAGE Publications to serve as co-editor. The board of ISMM unanimously voted in the same direction, and responses from our membership were supportive. My understanding is that the journal is carried by a team of extending experts within and around the editorial board. The quality of a periodical publication stands with the enthusiasm and active support of its editorial board members, its readership, and of course, its authors ready to share their expertise and knowledge.

Let us all understand this journal as a mutual and significant vehicle to transfer our common goal and to share and discuss our concepts, data, and experiences, thus “crossing borders and joining forces” (motto of the joint Meeting of the AAMT, NAMT, and CMTA [Canadian Music Therapy Association] in Toronto, Ontario, Canada, in 1993).

Voyager One took Bach’s *Brandenburg Concerto No. 2 in F* into space in 1977, opening up new frontiers, as John F. Kennedy set the goal long before. Let us follow them to new horizons in health care—artists, practitioners, and scientists together. At the turn of the millennium, a vision for collaboration between the arts and medicine and health care in the next—this—millennium came up at many places, on various international meetings, and in several publications (e.g., Malchioidi, 1999).

I say, we are on the way.

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