

Music & Medicine:

The Development of an Integrative Approach to the Application of Music and Music Therapy in Medical Settings

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Abstract

Clinical practice, research & training are three critical aspects of program development in the establishment of music and medicine in hospital settings. Since 1994, the Louis Armstrong Center for Music & Medicine has been developing clinical care strategies that have fostered programs internationally in support of integrative medical practices. This article will highlight the development of that growth; from a one unit service to an inner city center for infants, children and adults of varying needs and diagnoses.

Keywords: Music Therapy, Music Medicine, Music Psychotherapy

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Introduction

The Louis Armstrong Center for Music & Medicine has offered clinical services in the hospital setting for nearly two decades. Support from The Louis Armstrong Educational Foundation, the Keith and Clara Miller Foundation, the Grammy Foundation, the Heather on Earth Music and Remo Foundations and various estates directed by the late hospital trustee Richard Netter have supported our growth and expansion in hospital and community clinical and research endeavors.

The music therapy program was originally housed in the Department of Social Work and Home Care Services. Starting with a relationship between Louis Armstrong's doctor Gary Zucker MD and Joanne Loewy, the program began with support as a single grant in 1994. Loewy had come to Beth Israel Medical Center as a patient, and during that time, volunteered on the Peds floor. The Louis & Lucille Armstrong Music Therapy Program began as a service offered on Beth Israel Medical Center's Department of Pediatrics. Loewy and her interns from New York University and Molloy College conducted daily sessions with patients on Pediatrics. By 1996, with a grant from a medical foundation and a pharmaceutical company, a plan for a Pediatric Pain conference developed. Clinicians from neighboring hospitals in NYC and close-by states, such as New Jersey and Pennsylvania took interest in the first symposium in Pediatric Pain and Music Therapy co-sponsored with NYU. This first conference was the seed for many conferences and trainings that have ensued within the past 19 years.

A pioneering music therapist in the development of music therapy and pain management who was the Coordinator of Music Therapy Programs at Temple University, Cheryl Dileo provided Loewy with early expertise and support with editorial prowess assisting in the development of the now familiar text that was an accompaniment to the symposium: 'Music Therapy and Pediatric Pain'-first published by Jeffrey Books in 1997. The symposium itself drew 189 clinicians, doctors, nurses, and music therapists who attended the symposium. The text is currently in its 7th reprint. Symposia and conferences have been a stronghold and part of the growing development of Music and Medicine in the NYC and tri-state arena of music and medicine.

The LACMM is committed to growing music and medicine programs internationally. Throughout our 19 year history we have hosted conferences in diverse and distinct areas of research and clinical practice. From pain management to cancer care, or pulmonary function in children and adults to NICU care, from treating the ailments particular to musicians, or developing models for implementing music therapy in post traumatic stress and trauma, our symposia and conferences whether open to the public, or invited as working summits, have been devoted to the understanding of key concepts and areas of music and medicine and music therapy. Our stronghold devotion to training and research has provided an international forum whereby we have assisted the international growth of music and medicine in developing countries. Listed in Appendix A, beginning with the most current and working back in time are some of the events where we hosted full day and multi-day events in which music therapists, doctors, social workers with mu-

sic and medicine specialties gathered at Beth Israel Medical Center to develop the knowledge and understanding of critical areas in integrative music medicine. The symposia and events which are starred, are those that have affiliated texts that are inclusive of chapters authored by many of the participating doctors, nurses, social workers, creative arts therapists and allied health professionals who were participants and these text are outlined in Appendix B.

In 1996, after two years of working in the Milton B. Stern in-patient Department of Pediatrics, a second area of care presented itself as an immediate need-the Pediatric HIV Program. I developed an out-patient program in conjunction with the Peter Kruger Clinic at Beth Israel and with a grant from the Keith and Clara Miller Foundation. A second music therapy position was created which focused on children and families with HIV and families with AIDS. Music therapy served as a continuum of care from in-patient treatment to weekly out-patient care. Children, teens and their families participated in weekly music psychotherapy sessions. When they became very ill and needed to be hospitalized for blood transfusions or infection, or for palliative care when infection had taken over their frail bodies, music therapy was there at each and every juncture. In 1997, we designed two research projects with Pediatricians-one in veni puncture pain and the second in sedation (1,2).

With two music therapy lines, the Louis Armstrong training program expanded and by 2000, we were affiliated with many diverse American music therapy programs, and some international universities as well. Applications of our internship programs were growing and by 2001, we had over 43 applicants for 4 spots. Our music therapy interns were given numerous development opportunities and word was spreading, particularly as our graduates were often winning positions that involved starting new programs in medical centers. Our interns were integral in assisting to build music therapy in many new and diverse treatment areas of the hospital: NICU, Pediatrics, Family Medicine, Maternity, Oncology, Respiratory Step Down, ICU's and there was interest from the Pain and Palliative Medicine Team.

In 2001, we formally and officially opened our training to international students. We were invited to begin working with the National Arts and Science Foundation and the American Music Therapy Association after 9-11. Joanne Loewy along with Kristen Stewart invited 9 prominent music psychotherapists in NYC to develop a training whereby music therapists and other professional caregivers could learn about music therapy in the treatment of human vindicated trauma. The training was 6 months and involved those personally affected by 9-11 alongside those who were professionally affected-it was a learning for all involved.

In 2005, The Louis and Lucille Armstrong Pediatric Music Therapy Program received two important prestigious grants. The first was from the Grammy foundation and allowed for the study of out-patient asthmatic children. The in-patient work involving music meditation and active wind play would have a chance to be piloted as an out patient program for children and teens. This work continues today and is offered in several NYC public schools.

The second grant was from Richard Netter, a long-time Beth Israel Medical Center trustee. This grant provided the opportunity to open The Louis Armstrong Center for Music and Medicine. It came with designated Department space (an in-patient office suite) and a Clinic on Union Square. Within the next few years, the department expanded considerably- a medical director and 6 music therapists and an administrator were brought on board. We received many grants.

Our treatment areas expanded to Orthopedics, Pulmonary & Cardiac Care, the SICU and we began to develop a Center where musicians and children and teens with developmental and/or emotional disturbances could be seen for weekly music psychotherapy sessions. Today, our Louis Armstrong Center for Music and Medicine includes in patient and out patient- a five -day a week clinic and we specialize in the treatment of musicians, children and teens with emotional issues, and developmental delays and adults with neurological disorders. Additionally we provide our Asthma Initiative Program for children and teens on an individual basis and we see groups comprised of adults with pulmonary challenges (COPD). We also have instituted Cancer Care Programs in fragile environment: radiation and chemotherapy.

Training & Education

Throughout our 19 years of growth, the training of music therapists and allied professionals has been one of the cornerstones of our growth. Our therapists are team oriented and all of our 12 research projects include MDs along with music therapists as our principle investigators. We also have maintained that live music is a stronghold and preferred to recorded music. This is because in medical work it is most effective to have the capability to entrain with our patients' vital signs and we value the ability to be able to shift according to both physiological and emotional domains of care, *in the moment of change, with the patient.*

The Armstrong Team provides weekly clinical music therapy supervision for staff and interns alike. Prospective interns may apply at any time by requesting an application and sending it in with a video of themselves playing guitar, piano, a wind or string instrument along with the playing and singing of a favorite song. Wind and string players are welcomed and favored. The department has institutional long-standing affiliations with Drexel University, New York University, Barcelona University, University of Madrid, Loyola College, Molloy College, Montclair State University, and Berklee College of Music. It has been an approved training site for the American Association for Music Therapy (AMTA) since 1981 and on the National Roster of the American Music Therapy Association since the merge of NAMT and AAMT in 1998. The internship fosters skills in the AMTA professional competency areas of music foundations and skills, clinical foundations of therapy, ethics, research and foundations and principles of music therapy assessment, treatment planning, implementation, evaluation and documentation (for more on the professional competencies go to <http://www.musictherapy.org/competencies.html>).

In addition we have developed our own training program on-site that consists of 40 hours of seminar lectures, 10 months of weekly sessions whereby 9-20 sessions per week are followed with supervision inclusive of observations-to be observed and to observe, three to six videoed sessions per year, 26 hours of assigned reading and experiential designs and numerous on-site supervision meetings.

For select graduate music therapy interns and by interview, we have two additional training opportunities:

Our Musician's Clinic and Child Development Music Therapy Training which includes experiential weekly learning in how to treat the ailments common to musicians such as depression, chronic fatigues, overuse, chemical dependency and performance anxiety. Additionally we provide music psychotherapy play approach to treating children with ADHD, PDD, Autism, Learning and Speech delays and distinct ways of implementing a music psychotherapy approach for teens with manic depression, eating disorders or suicidal tendencies.

A second **Child Life Certification** is also available to Board-Certified Music Therapists seeking dual certification to expand career opportunities. This 480 hour internship within a medical music psychotherapy program focuses on music therapy as a crucial component of the psychosocial care of hospitalized children. Interns will master the medical application of music therapy in terms of procedural support, pain management, and respiratory care, and will be eligible to sit for the child life certification examination. Our **International Clinical Training** has expanded through the years to include university programs in Germany, China, Korea, Singapore, Japan, Europe and Scandinavia.

Training for Non-Interns

The Louis Armstrong Music Therapy Programs provide weekly and monthly orientation and observation programs specifically designed for professionals, students, Doctors, RNs, Chaplains, Social workers, PTs, OTs, Music Educators and others who want to observe and/or learn more about all of our music therapy programs at Beth Israel. This official training program became customized in January 2006 due to the growing interest in our program and the number of observations requested. Our team seeks to organize and consolidate the experience of the observer. In this way each visit includes overview of a broad range of populations, clinical music therapy techniques and areas of clinical interest that professionals and students desire to learn about. This best seems to meet the needs of our visitors as well, and most accurately reflects the full range of practice and techniques that we provide in medical music therapy.

The initial days of such trainings include an orientation, complete with video examples and a folder of current critical state-of-the-art medical music psychotherapy articles and readings as they pertain to our program. The orientation includes a tour and some experiential work as well. The training includes observations as well. Our team seeks to cater these trainings to the population of the observer's choice, and we provide processing time for

the trainees to ask questions and learn about how and why we intervene, with particular rationales discussed and explored according to the music psychotherapy model we have developed for the various populations we treat within a medical context.

In the past nine years several of the research studies and clinical service programs provided on an in-patient basis have expanded into the community. Our out-patient center has launched unique services in several NYC clinics and schools, providing services to diseases that were typically treated as 'emergency room' illnesses and launching innovative preventative means whereby patients become motivated to gauge their symptoms on a day-to-day bases. By creatively addressing problems through the fostering of music activity independently and preventatively with music, music in medicine becomes a means for maintaining good health and wellness. Two innovative programs that incorporate mind-body techniques for children and adults in both pulmonary and cardiac rehabilitation include Music for AIR (Advances in Respiration) and Music for CAIR (Cardiac Advances in Rehabilitation). Our Asthma Initiative Program (AIP) has helped children and teens with asthma in the school or community environment through the implementation using singing and the voice to address control of breath and music visualization as a means of inquiry and body awareness, and active wind play (recorders and flutes) to foster control of inhalation and exhalation within a creative context.

The Music & Health Clinic serves the unique health care needs of musicians and performing artists, linking performance-related ailments to medical and clinical music therapy services. We are proud to host a medical director, a team of music therapists and specialized doctors who can attend to the physical and emotional needs of the musician and performing artist. The clinic also serves children with developmental delays such as PDD, ADHD and autism and teens that have depression. Music therapists at the clinic also treat adults who have Parkinson's or Alzheimer's disease or those who are post stroke. Additionally, we serve people who are at any and all stages of cancer. We use music to address symptoms such as nausea and 'chemo-brain' and/or anxiety and depression that can accompany cancer treatment.

The Louis Armstrong Music Therapy Department provides a broad range of services throughout the medical center and within the community. Our mission ensures that our staff provides state-of-the-art care to complement medical treatment. Our team is trained to offer the most current music psychotherapy techniques in clinical improvisation, music meditation, pain management, sedation, end-of-life, and breathing modalities of music and healing. We are affiliated with New York University, Hahnemann Creative Arts in Therapy Program at Drexel University in Philadelphia and the American Music Therapy Association. Our music therapy team is comprised of six music therapists, ten graduate interns and two research fellows carefully selected from universities across the country. We also provide training for international students during the summer. Our team conducts research in conjunction with doctors and nurses, providing the utmost care and creative attention to the patients and families we serve.

We are affiliated with the International Association for Music and Medicine (IAMM) and the American Music Therapy Association which defines music therapy as “the clinical and evidence-based use of music interventions to accomplish individualized goals within a therapeutic relationship by a credentialed professional who has completed an approved music therapy program.” (American Music Therapy Association definition, 2005). Music has been used in healing virtually since the beginning of time. There is growing interest in Eastern and Western hospitals in music and medicine. Clinical interventions are based on scientific research indicating that music therapy may alleviate pain, regulate heart rate and blood pressure, improve breathing, ease anxiety, reduce depression, and enhance quality of life.

Our patients’ feedback, foundation grants from healthcare societies and recent doctor support indicates that music therapy has assisted in patient, family and community relationships and improved ego functioning. In the United States, music therapists must pass a national board certification exam upon completion of an accredited university program and internship and are required by the Certification Board for Music Therapy to maintain ongoing training in current methods, policies and practices. Music therapists specifically study the evidence-based use of music (including both music listening and active music-making) to achieve goals ranging from neurological rehabilitation, speech development, stress management, physical wellbeing and psychotherapeutic aims.

In New York State music therapists must be licensed by the NY State Department of Education, and are educated at the Masters and Doctoral level. They are trained in the most current music psychotherapy techniques in pain relief, wellness, stress management and breathing modalities of music and healing. In addition to using music to improve physical symptoms, music therapy in a medical setting involves treating the whole person—body, mind and spirit. At Beth Israel, our medical music psychotherapy approach involves the assessment of each patient’s unique mind-body connection (how the mind is affecting the body and how the body is affecting the mind), support of coping mechanisms which have been shown to enhance the immune system, treatment of the rhythms, resonances, tones, and timbres of the body to promote harmonic balance, addressing physical, emotional, cognitive, developmental, social and spiritual needs of the person, promoting self initiative, which thereby enhances one’s sense of empowerment as a proactive force in his/her own healing. This is a major premise in integrative medicine and transfers to the way care is provided our Louis Armstrong Music and Medicine team and within Beth Israel Medical Center as well.

Music Therapy Session Structure

Upon consultation from weekly medical rounds where referrals are made by doctors, nurses and social workers, music therapy is offered in one-to-one sessions with patients, in family sessions and in group sessions with other patients, family members, friends and/or medical staff. In addition, we provide environmental music therapy (EMT) to promote a relaxing and soothing atmosphere for patients, families and staff on the unit (Canga et al, 2012). We also implement community outreach programs such as the Asthma Initiative Program (AIP) in local schools

and outpatient services such as The Music & Health Clinic for performing artists and musicians, Music for AIR for adults with respiratory illnesses, and Music for CAIR for adults with heart disease.

A music therapy treatment session may involve music listening, guided visualization, structured songs, clinical improvisation, song writing or music-assisted relaxation. All sessions are tailored to the patient's needs and preferences. At the Louis Armstrong Center for Music & Medicine, music therapists play live music, customized to the individual needs of each patient based on cultural and personal preferences, as well as disease state and physical and emotional state.

Unlike recorded music, live music can be adjusted and adapted to the patient throughout the session. For example, sedation may be supported by slowing the tempo of the music gradually and changing musical elements such as meter, arrangement and texture, or entrained to the patients presenting respiratory rate or heart rate. Participants may choose to play, sing, direct or simply listen and are provided with easy-to-play instruments, or they may choose to listen and have a musical piece played for them by the music therapist, or by a family member, accompanied by a music therapist.

Referrals

Our music therapy team treats people across the life span, from premature infants in the NICU to people recovering from surgery to end-of-life care. Patients in the hospital may benefit from music therapy to alleviate pain, anxiety, or depression, provide gentle stimulation for loss of consciousness and enhance coping, communication and quality of life. People in the community who are coping with an illness may also receive music therapy through our outpatient programs for children and teens with asthma, adults with COPD or heart disease, and musicians and performing artists.

There are numerous scientific research studies that support the use of music therapy in medical settings that are published in peer reviewed journals. State of the art research on music medicine and music therapy in medical settings can be found in the peer reviewed international journal of *Music and Medicine*.

Current and Past Music Therapy Research Studies (all co-investigated with MD's and/or RNs) at The Louis Armstrong Center for Music and Medicine at Beth Israel Medical Center include:

- Effects of an Integrative Music Therapy Program on the Perception Noise in the SICU: A Patient, Caregiver, and Physician/Nurse Environmental Study n=120
- Clinical Music Improvisation and Infusion Study at St Luke's Roosevelt. Music therapists are investigating the impact of clinical music improvisation on resiliency of patients receiving infusion therapy. n=75
- The Impact of Music Therapy on State Anxiety in Cancer Patients Undergoing Simulation (Radiation Therapy) n=60

- The Effect of EMT on Anxiety Levels and Perception of Waiting Time in the Radiation Oncology Waiting Room n= 80
- The Effects of Music Therapy in the Recovery of Patients Undergoing Spine Surgery. Music therapists are measuring the effects of live music applications in pain and recovery of SPINE patients. n=75
- EEG Sedation Study: Chloral Hydrate vs. Entrained Lullabies n=60 complete/published (Loewy, et al, 2005)
- Heather-on Earth Multi-site Music Therapy Study: n=272 complete/(in press) 11 NICU's (Heather on Earth)-and subsequent monograph-International TRAINING-Remo (multi-international authors)
- AIP (Asthma Initiative Program): n=200+/Clinic/3 schools-Bronx, Brooklyn, Lower East Side (in press)
- *Music for AIR (Advances in Respiration)* n=200 Clinic, CCR, Nursing Homes (in press)

Summary of the Training and Orientations at the Louis Armstrong Center

We provide weekly and monthly trainings-shorter visits are orientations and observations and monthly trainings are more in-depth. We teach and tutor on our music therapy approaches and professionals as well as students, doctors, nurses, social workers and chaplains with interest and/or former music training or healthcare study backgrounds are welcome to attend. We are also an AMTA-approved training site for music therapy students seeking the internship for board certification and our program can lead to Child Life certification if applicants specify for this. For music therapy professionals seeking advanced training in our music psychotherapy approach, we have an International Training Institute and the Thanks to Scandinavia programs which run throughout the year or within the Summer months. We are affiliated with the **International Association for Music and Medicine (IAMM)** which is an association comprised of medical professionals and music therapists and music and medicine professionals. Their conference was July 3-8, 2012 in Bangkok, Thailand.

The growth of music therapy and music medicine in hospitals is rapidly expanding. It is imperative that this development occurs in a sensitive and gradual way. It is my hope that clinical practice, research and training will develop as essential activities alongside one another to ensure that patient interventions are evidence-based and that we re-search and grow in our practices to serve the music best suited for live human beings. This implies that as we develop conceptually, we also work with live human beings, while we write about our work, and at the same time read, keeping our eyes on the research of colleagues and peers.

References

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Loewy, J. Hallan, C., Friedman, E., and Martinez, C. Sleep/Sedation in Children Undergoing EEG Testing: A Comparison of Chloral Hydrate and Music Therapy. *Journal of Perianesthesia Nursing* 20 no. 5 (2005): 323-3.

Loewy, J., Hallan, C., Friedman, E., and Martinez, C. Sleep/Sedation in Children Undergoing EEG Testing: A Comparison of Chloral Hydrate and Music Therapy. *American Journal of Electrodiagnostic Technology* 46 no. 4 (2006): 343-355.

Appendix A

Music & Medicine: Integrative Models in Pain Medicine
January 30 & 31, 2012

Converging Disciplines in NICU Care:
Psychophysiology, Neurology, NIDCAP, and Music Therapy
Co-sponsored by Drexel University's Hahnemann Creative Arts in Therapy Program & New York University Music Therapy Program
June 7, 2012

Thanks to Scandinavia Scholars Integrative Music and Medicine Grand Rounds
Each August, from 2006 -2011

First Sounds: Rhythm, Breath and Lullaby (RBL): An International Summit for NICU Music Therapy
August 2-4, 2010. This invitational Summit included 40 doctors, nurses, music therapists and psychologists who have been working in the NICU. We launched the official overture of an international alliance and planned for a 3 year training with international practitioners in NICU music therapy.

Hospice & Palliative Care Music Therapy Day
April 9, 2010

A Music & Health Symposium for Musicians, Performing Artists, and Medical Professionals
October 13, 2009

Music Therapy & Child Life: Effective Treatment Integration
August 4, 2009

Music, Resilience, & Self Care: A Day Retreat
May 12, 2009

The 1st International Music Therapy & Trauma Symposium: Bridging Theory and Clinical Practice
June 9 -10, 2008

A Symposium on Music, the Breath & Health: Advances in Integrative Music Therapy
January 28 - 29, 2008

A Music & Health Symposium for Musicians, Performing Artists, and Medical Professionals
May 14, 2007 9-5 PM

NICU Multi-Site Training

August 28 - 29, 2006

A Symposium on Music Therapy at the End of Life

March 1 - 2, 2004

Caring for the Caregiver: A 9-Week Training in Music, Healing, Grief and Trauma

January - June, 2002

Music Therapy in the NICU

December 15, 2000

The 1st Music Therapy & Pediatric Pain Symposium

September 22 - 24, 1997

Appendix B

Music Therapy and Pediatric Pain

Joanne Loewy, Editor, Cherry Hill, NJ: Jeffrey Books

Music Therapy in the NICU

Joanne Loewy, Editor, Satchnote Press

Caring for the Caregiver: The Use of Music and Music Therapy in Grief and Trauma

Joanne Loewy & Andrea Frisch-Hara, Editors, Washington, DC: AMTA

Music Therapy at the End of Life

Cheryl Dileo & Joanne Loewy, Editors, Cherry Hill, NJ: Jeffrey Books

Mass Trauma and Violence: Helping Families and Children Cope

with "Music Therapy to Help Traumatized Children and Caregivers"

Joanne V. Loewy & Kristen Stewart in Nancy Boyd-Webb, Ed., Guilford Publications

Music, the Breath & Health: Advances in Integrative Music Therapy

Ronit Azoulay & Joanne Loewy, Editor, NY, NY: Satchnote Press

Music Therapy & Trauma:Bridging Theory and Clinical Practice

Kristen Stewart, Editor, NY, NY: Satchnote Press

