

# Music Therapy and Military Populations

A Status Report and  
Recommendations  
on Music Therapy Treatment,  
Programs, Research,  
and Practice Policy



Neither the American Music Therapy Association nor its Board of Directors is responsible for the conclusions reached or the opinions expressed by the authors of this paper.

The American Music Therapy Association is a non-profit association dedicated to increasing access to quality music therapy services for individuals with disabilities or illnesses or for those who are interested in personal growth and wellness. AMTA provides extensive educational and research information about the music therapy profession. Referrals for qualified music therapists are also provided to consumers and parents. AMTA holds an annual conference every autumn and its seven regions hold conferences every spring.

For up-to-date information, please access the AMTA website at [www.musictherapy.org](http://www.musictherapy.org)

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## EXECUTIVE SUMMARY

The American Music Therapy Association is pleased to present this briefing paper to military leadership, military support personnel, federal government officials, representatives of arts and other related organizations, music therapy professionals, and non-profit policy makers. The purpose of this briefing paper is to outline the status of music therapy in the military. This information provides the groundwork to improve access to music therapy services among military populations and inform strategic plans for expanded and prioritized implementation of music therapy programs, research, and practice policy in the military. The overall intentions are to keep pace with the current needs of service members and to support mission readiness and a resilient military and veteran population. The paper includes four sections: Background, Model Programs, Research, and Recommendations and Conclusions.

The American Music Therapy Association (AMTA) is a professional organization representing 6,000+ music therapists nationwide and in some thirty countries around the world. The profession has a tradition and steadfast commitment to program and research excellence for service members and their families. This commitment spans all phases of military service.

In 1945, the U.S. War Department issued Technical Bulletin 187 detailing a program on the use of music for reconditioning among service members convalescing in Army hospitals. This program demonstrated how music could be incorporated in multiple therapeutic services including recreation, education, occupational therapy, and physical reconditioning (U.S. War Department, 1945, pp. 2-3). Following WWII, music therapy grew and developed as a profession and as a direct result of research endorsed by the Army and Office of the Surgeon General. However, the seeds planted early on in the military have not mirrored the rate of growth and development of the profession relative to other public and private practice settings. Recommendations to address this variance are included, herein, in the areas of research, practice policy, and treatment and program development.

The briefing paper does not attempt to conduct a comprehensive review of all clinical populations served by music therapists among the military's wounded, ill, and injured. However, the paper focuses on service members and veterans involved in more recent deployments. Music therapists provide services to military personnel, their families, service members in transition, and veterans nationwide. These music therapy programs are on military installations, in military treatment facilities, in Veterans Administration healthcare facilities, in communities, and elsewhere. A sampling of exemplary programs is highlighted and includes both active duty and veteran programs.



## OVERVIEW

The American Music Therapy Association presents this briefing paper to military leadership, military support personnel, federal government officials, representatives of arts and other related organizations, music therapy professionals, and non-profit policy makers. The purpose of this paper is to describe the state-of-the-art of music therapy with military populations and to provide recommendations for program development, research, and practice policy. This paper includes four sections, plus references:

- Section I. Background
- Section II. Model Programs
- Section III. Research
- Section IV. Recommendations & Conclusions

The American Music Therapy Association (AMTA) is a non-profit organization dedicated to advocating for access to music therapy services and representing 6,000+ music therapists nationwide and in some thirty countries around the world. The Board of Directors of AMTA has a tradition and steadfast commitment to program and research excellence for service members and their families. This commitment spans all phases of military service including pre-deployment, active duty, and veteran status.



Since 2001, approximately 1.64 million troops have deployed as part of Operation Enduring Freedom (Afghanistan) and Operation Iraqi Freedom. The pace of deployments is rapid and it is common for service members to participate in multiple deployments. Medical technology and military strategies have dramatically increased survival rates relative to previous wars. However, casualties related to the context of recent combat have resulted in service-connected injuries, illnesses, and disabilities that are significant (Tanielian & Jaycox, 2008). The signature injuries of recent wars include post-traumatic stress disorder (PTSD),<sup>1</sup> traumatic brain injury (TBI), major depression, polytrauma, and a whole host of complicating sequelae such as substance abuse, family conflict, and suicide risk. This paper does not attempt to conduct a comprehensive review of all clinical populations served by music therapists among the wounded, ill, and injured. However, the paper includes examples from music therapy programs that tend to focus on service members and veterans involved in more recent combat and deployments.

<sup>1</sup>We acknowledge that some branches of the service prefer the term "Post Traumatic Stress." PTSD is used in this paragraph because that is the condition referred to in the Tanielian & Jaycox study.



## SECTION I. BACKGROUND

### History and Context of Music Therapy

In the July 4, 1891 edition of *Lancet*, Frederick Harford, M.D., of Westminster wrote a letter to the editor titled “Music in Illness.” The author referred to several articles on the subject of “music as a remedy” and music in the treatment of disease. He noted that if music is valid in the treatment of certain conditions, then it is of practical value for members of the larger community (Harford, 1891). Dr. Harford further noted in a post script that he had had a conversation with Florence Nightingale on the subject of music in therapy and restorative services. Little did this physician know that music therapy would be formally organized as a profession in the United States less than 60 years later, and would be founded and rooted in treatments for service members of World Wars I and II in veterans’ hospitals.

Community musicians, both amateur and professional, went to veterans’ hospitals around the country to perform for the thousands of veterans suffering both physical and emotional traumas from the wars. The patients’ consistent, positive physical and emotional responses to music led physicians and nurses to request that hospital administrators hire musicians to facilitate recovery. It soon became clear that hospital musicians needed training before entering facilities in order to ensure the best patient outcomes. As a result, the demand grew for a college curriculum to prepare musicians to work in hospitals. The first university music therapy course was offered at Columbia University in 1919 by Margaret Anderton (Wheeler, Funk, Woods, Draper, & Funk, 1919). Anderton’s clinical background included providing music-adapted services to wounded Canadian soldiers during World War I.

During World War II, music was used most often to boost the morale of returning veterans. Additionally, music therapy services were also used in medical applications in physical and emotional rehabilitation. However, the general public and the media were not aware of these behind-the-scenes services (Davis, Gfeller, & Thaut, 2008). Military officials were focused on reconditioning service members injured by war, and they were especially interested in music-based interventions that showed promise among individuals who required extensive medical and psychological services. Thus, the U.S. War Department issued Technical Bulletin 187 in 1945 detailing a program created by the Office of the Surgeon General on the use of music for reconditioning among soldiers convalescing in Army hospitals. This program demonstrated how music could be incorporated in multiple therapeutic services including recreation, education, occupational therapy, and physical reconditioning (U.S. War Department, 1945, pp. 2–3). Assessments of service provision in the music programs spurred by



Image: U.S. Army, Fitzsimons General Hospital, Denver, CO Music Room, Educational Department. <http://ihm.nlm.nih.gov/images/A0079Z>

Technical Bulletin 187 indicated that among 122 VA hospitals where these services were provided, 80,000 service members engaged in one or more music programs and 7,538 patients received music services by medical referral and recommendation. The number of service members engaging in recreational and music appreciation programs numbered in excess of 276,000 (Rorke, 1996).

When the Technical Bulletin was published, it noted that research was needed to evaluate music's effectiveness and demonstrate its "value as a therapy" (U.S. War Department, 1945, p. 1). Subsequently, the military participated in one of the earliest longitudinal (3.5 years) cohort studies conducted in cooperation with the Office of the Surgeon General and Walter Reed General Hospital. The goal of the study was to understand whether "music presented according to a specific plan" influenced recovery among service members with mental and emotional disorders (Rorke, 1996, p. 202). The study included four treatment arms based on the medical officer's assessment of clinical presentation, music preferences, and music experiences. Matched control cases were selected based upon an array of demographic and clinical factors. Numerous case reports and published articles resulted from this study describing the importance and impact of music interventions among service members in rehabilitation.

On one hand, it is fascinating to learn how important music was in the military during and after World War II and to learn of the priority placed on demonstrating its benefits as a "therapy." On the other hand, it is perplexing to see how music therapy grew and developed as a profession in its own right outside of the military. The seeds planted early on in the military, however, have not mirrored the rate of growth and development of the profession as a whole.

Following WWII, the National Association for Music Therapy was formed in 1950 and the American Association for Music Therapy was founded in 1971. According to Davis and colleagues, "the development of a standardized curriculum, regular publications, an efficient administrative organization, and the merger of NAMT and AAMT to form the American Music Therapy Association in 1998, have all contributed to the growth of the profession. Today, music therapy is recognized as a strong, viable, profession" (Davis, Gfeller, & Thaut, 2008, p. 36). Music therapy meets the recognized hallmarks of a profession identified by sociologists including a body of knowledge, autonomy, authority, and altruism (Hodson & Sullivan, 2012).

As foreground to research in music therapy topics applicable to military populations, the next section defines music therapy and briefly discusses some important features of music in therapy and music as therapy that inform evidence-based music therapy practice.



## Rationale for How Music Therapy Works

As a clinical service, music therapy is defined 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” (AMTA, 2004).

Music therapy services are delivered as part of an individualized treatment plan. Specific interventions may address cognitive, physical, communication, emotional, and social needs of individuals across the life span. After assessing the strengths and needs of each client, the qualified music therapist designs and implements individualized treatment protocols. Music therapy interventions include creating music, singing, moving to, and/or listening to music. In the context of certain types of conditions, such as those that involve brain injury, the music therapist is trained to provide specific evidence-based interventions that build life skills to improve independence and promote adjustment to the individual’s “new normal.” Through musical involvement in the therapeutic context, clients’ skills are strengthened and transferred to real-life situations.

Music therapy provides a safe milieu for those who are wounded, ill, or injured to (a) nonverbally express their inner thoughts and feelings, and (b) support verbal processing of thoughts and reactions. Through engagement in music that accommodates their cultural differences and musical preferences, service members are motivated to pursue varying levels of self-disclosure, a process essential to recovery. Music therapists trained in providing interventions, employ a variety of music-based tools and techniques as part of the therapeutic intervention, including things like group drumming, singing, listening, and songwriting. These music-based strategies serve as strong motivators for participation and personal growth. Music therapy provides the means to reveal unconscious fears and anxieties, identify and work through traumatic experiences, and transform traumatic memories into healthier associations (Amir, 2004). Music elicits extra-musical ideas useful in recovery, growth, and development. It is not uncommon to see recovery progress much more rapidly once the service member has developed mechanisms to cope with traumatic memory.

From a theoretical perspective, music therapy is “purposeful, organized, methodical, knowledge-based, and regulated” (Bruscia, 1998). Fundamental to intervention outcomes is the fact that people are neurologically predisposed to receive and process music in both hemispheres and multiple locations of the brain (Alluri, Toiviainen, Jääskeläinen, Gleason, Sams, & Brattico, 2011). Over the past decade, there has been a marked increase in collaborative research between neuroscientists and music therapy scholars. Music is a powerful tool because it influences physiological responses, behaviors, thoughts, memories, and emotions—whether or not they reach conscious awareness. Rhythm, a vital





element of music, organizes and energizes human responses (Hardy & LaGasse, 2013). Music requires involvement in the “here and now” and supports reality-ordered behavior. Music provides an experience of responsibility to self and others in a non-threatening way (Gaston, 1968). Ultimately, music provides opportunities for unique human expressions and experiences that are important to life across all ages and abilities.

#### Qualities of Music

Davis, Gfeller, & Thaut, (2008) list the following qualities of music that inform evidence-based music therapy treatment/interventions:

- Music provides sensory stimulation that evokes and regulates motor responses.
- Music enhances emotional responses that are integral to learning and change.
- Music facilitates social interaction essential to building relationships.
- Music provides opportunities for communication of feelings, needs, and desires.
- Music provides an enjoyable and nonthreatening means of rehabilitation and recovery.
- Music evokes associations that contribute to an increase in well-being, life quality, and standard of living.
- Music provides diversion from inactivity, discomfort, and daily routine to facilitate treatment adherence.
- Music is flexible and can be adjusted to meet the needs of varying physical, communication, cognitive, social-emotional, and behavioral functioning levels.
- Music is structured and occurs through time, which serves to provide a framework for restoring and maintaining function.
- Music provides stimulation that holds attention and concentration, facilitating learning across all domains.
- Music is measurable and can be documented, assessed, analyzed, and validated to track progress in music therapy treatment.



## Music Therapy Education

A bachelor’s degree from an American Music Therapy Association (AMTA) approved program is required for entry into the profession. The curriculum includes coursework in music, music therapy, biology, psychology, social and behavioral sciences, and general studies. Clinical skills are developed through 1,200 hours of required fieldwork, including a minimum of a 900-hour internship in healthcare and/or education facilities. These experiences allow students to learn how to assess the needs of clients, develop and implement treatment plans, and evaluate and document clinical changes. Graduate degrees in music therapy offer the opportunity to gain in-depth knowledge and competence in clinical skills and research.

The American Music Therapy Association has approved over 70 music therapy curricula, including baccalaureate, master's, and doctoral level degrees. Forty percent of music therapy professionals hold post baccalaureate degrees and engage in advanced practices and subspecialties. A current listing of AMTA approved curriculums can be found at [http://www.musictherapy.org/assets/1/7/Career\\_Brochure\\_7-29-11.pdf](http://www.musictherapy.org/assets/1/7/Career_Brochure_7-29-11.pdf)

### Music Therapy Practice Standards, Ethics, and Certification

Music therapists are responsible for working within Standards of Clinical Practice and a Code of Ethics (<http://www.musictherapy.org/members/officialdocs/>) established by AMTA. These documents outline therapists' responsibilities and relationships with other professionals involved in client treatment.



The Certification Board for Music Therapists (CBMT) defines the body of knowledge that represents competent practice in the profession of music therapy, creates and administers a program to evaluate initial and continuing competence of this knowledge, and issues the credential of MT-BC to individuals that demonstrate the required level of competence. Certificants must demonstrate successful completion of an AMTA-approved curriculum (or its equivalent) and pass the national exam administered by CBMT. CBMT is the only organization to certify music therapists to practice music therapy nationally. Its MT-BC program has been fully accredited by the National Commission for Certifying Agencies (NCCA) since 1986. The CBMT Examination Committee assembles the national certification exam with technical psychometric assistance provided by Applied Measurement Professionals, Inc. (AMP). The tests are administered according to standard procedures by AMP using its computer-testing network. Each form of the certification examination consists of 130 test items systematically selected to represent the CBMT content domain as identified in the Scope of Practice (SOP).

CBMT is charged with setting and enforcing quality practice standards, which are outlined in the CBMT Scope of Practice. Every five years a practice analysis is completed in cooperation with a team of experts in the field, surveyed certificants, and CBMT's testing firm, AMP. It is from this process that the current Scope of Practice is developed which details the tasks necessary to practice competently to ensure consumer protection. The five content outline areas, essentially performance domains, encompass the certificants' scope of practice.



Music therapists must abide by the Code of Professional Practice (<http://www.cbmt.org/about-certification/code-of-professional-practice/>) and work within the Scope of Practice (<http://www.cbmt.org/>) established by CBMT. These standards, codes, and professional documents require that music therapists follow federal, state, local, and institutional laws and mandates for ethical practice. To demonstrate continued competence and to maintain the MT-BC credential, music therapists are required to complete 100 hours of continuing music therapy education, or to re-take and pass the CBMT examination within every five-year recertification cycle. Continuing education hours for each certification cycle must include a minimum of three hours of ethics training.

### Music Therapy Professional Recognition

With over 60 years of clinical history in the U.S., music therapy currently receives national recognition as an established profession in the following ways:

#### Music Therapy Professional Recognition

- The United States Code lists music therapy as a disease prevention and health promotion service and as a supportive service under Title 42: The Public Health and Welfare; Chapter 35: Programs For Older Americans; Subchapters I and III.
- Music therapy is listed under the Healthcare Common Procedure Coding System (HCPCS) Code G0176 for billing Medicare in Partial Hospitalization Programs (PHP).
- Music therapy has a Procedure Code of 93.84 in the International Classification of Diseases-9th Revision Manual (ICD-9) used in reimbursement.
- Music therapy is listed on the U.S. General Services Administration (GSA) schedule under PROFESSIONAL AND ALLIED HEALTHCARE STAFFING SERVICES: 621-047---Counseling Related Services (Includes: Community Counselor; Marriage/Family Counselor/Therapist; Mental Health Counselor; Rehabilitation Counselor; Social Worker (BS); Social Worker (MS); Music Therapist; Art Therapist and Dance Therapist (Registered DTR).
- Music therapists are eligible to apply for the National Provider Identifier system for billing under taxonomy code 225A00000X, which is included in the category of "Respiratory, Developmental, Rehabilitative and Restorative Service Providers."
- The Minimum Data Set (MDS) 3.0 assessment tool utilized in skilled nursing facilities and residential care programs lists music therapy under Section O. Special Treatments and Procedures, O0400. Therapies, F. Recreational Therapy (includes recreational and music therapy). This listing provides a vehicle for documenting physician ordered music therapy services and validates the inclusion of music therapy as a part of the Medicare Prospective Payment System (PPS).
- The National Institutes of Health (NIH) National Center on Complementary and Alternative Medicine (NCCAM) website defines complementary and alternative medicine. Music therapy is included under Mind-Body Interventions.
- Music therapy is a related service under the Individuals with Disabilities Education Act and can be included on Individualized Education Plans if found necessary for a child to benefit from his/her special education program.
- The Joint Commission and the Commission on Accreditation of Rehabilitation Facilities (CARF) recognize music therapists as qualified individuals who may provide services within accredited facilities.



## Music Therapists as Allied Health Professionals in the Military

In addition to national board certification, music therapists are licensed professionals in some states, and efforts to secure state recognition are currently active throughout the United States. In order to be qualified to practice, music therapists must possess current board certification. As such, board certified music therapists are accountable to regulatory standards regarding the scope and standards of practice that extend nationally and state-by-state. Music therapists are trained in routine health policies and professional duties including mandatory reporting, confidentiality, infection control procedures, and privacy laws. Mandatory reporting and the skills necessary to evaluate risk in the context of a therapeutic relationship are critical responsibilities, for example, when working with a service member who has suicidal ideations.

### *Job Classification, Facility Access, and Coordination of Care:*

While the Department of Defense (DOD) and the VA engage qualified music therapists through a variety of contracting and hiring mechanisms, this can be a confusing process. Important music therapy services are often delayed or deferred due to challenges in gaining access to patients located in controlled facilities. To improve coordination of care across multiple treatment settings, there is a need for a review and update of music therapists' federal job classifications, and a coordinated review among the American Music Therapy Association, the DOD, and the VA to assist professionals in providing continuity of care where service members move among military health facilities, VA Centers of Excellence, and outpatient or day treatment programs.

The multifaceted life problems experienced by service members and veterans can be addressed by a board certified music therapist who can design an effective treatment intervention and build the therapeutic relationship essential to achieving desirable functional outcomes. Many of the service members with complex and involved physical and psychological injuries have limited "recovery capital" available, such as family or social supports or internal assets of resiliency (White, 2004).

To begin treatment, music therapists assess patients' functional levels and incorporate the individual's specific needs and preferences into the goals and objectives of the treatment program. Music therapists engage patients in music experiences that ensure trust and encourage them to participate fully in the treatment process. Music therapists continue treatment regimens with music experiences that promote functional changes within the music therapy session. These client changes are supported as the music therapist assists with the transfer of skills from treatment into daily life. Throughout the music therapy treatment process, outcomes are documented and referrals to other professionals are made when necessary.



*High-risk and at-risk military clients receive music therapy services in the context of an interdisciplinary treatment team. The MT-BC is qualified to make immediate referrals in cases of imminent danger or crisis. Emergency referrals may take place even in the absence of a formal treatment plan.*



*Music can be highly evocative, stimulating strong emotional and psychological reactions, e.g., catharsis, abreaction, or dissociative reaction. MT-BCs experienced and trained in mental health and trauma service delivery are qualified to a) observe/identify these reactions, b) deliver music therapy treatment "in the moment" to stabilize the individual, c) support processing reactions in the context of a therapeutic relationship and in a safe environment, and d) refer as needed.*

*Section I provided background information about how music therapy grew into a profession: its history with military populations; a rationale for how it works; and pertinent details about music therapy education, standards, ethics, certification, and recognition. The next section describes the current practice of music therapy in the military and highlights numerous noteworthy model programs.*



## SECTION II. MODEL PROGRAMS

### Current Range and Scope of Music Therapy Services with Military Populations

Music therapists provide services to military personnel, their families, service members in transition, and veterans nationwide. These music therapy programs are on bases, in military treatment facilities, in VA healthcare facilities, in communities, and elsewhere. This section begins with those music therapy programs focusing more on active duty service members and is followed by programs serving veterans; however, there are some overlaps. Some music therapy programs serve active duty service members, military families, and veterans, while other programs focus on one population along the military continuum.

#### Exemplary Programs Highlighted in this Section:

##### Active Duty Models

- **Davis-Monthan Air Force Base, Tucson**
- **Resounding Joy, Inc., San Diego**
  - ◆ *Balboa Wounded Athlete Program, Naval Medical Center*
  - ◆ *The OASIS Program, Naval Base, Pt. Loma*
  - ◆ *Camp Pendleton Semper Sound Music Therapy Program*
  - ◆ *Intensive Outpatient Program, Naval Medical Center*
  - ◆ *Traumatic Brain Injury Group, Naval Medical Center*
  - ◆ *Semper Sound Band*
  - ◆ *VetJam*
- **National Intrepid Center of Excellence (NICoE), Bethesda**
- **Walter Reed National Military Medical Center, Bethesda**
- **Institute for Therapy through the Arts (ITA), Music Institute of Chicago, Oaktree Program**
  - ◆ *Get Ready, Get Set*
  - ◆ *Growing Strong, Branching Out*
  - ◆ *Deep Roots, New Leaves: Reintegration Programming for Military Children*
- **Military Children, Special Needs, and Waiting Warriors (Multiple sites)**

##### Veterans Model Programs

- **The Role of Music Therapy and Music Programs in the VA Continuum of Care**
- **Veterans Affairs Facilities (Nationwide)**

### Active Duty Models

Military populations interface with music therapists in the U.S. and overseas. Programs are in place among active duty military, their families, and service members in transition. In many cases, music therapy services take place in the community through community partnerships. Programs for service members with more acute and severe conditions take place in military hospitals, clinics, Centers of Excellence, and short-term rehabilitation programs. Music therapy programs take place during pre-mobilization, deployment, post-deployment, and recovery in the case of injury, and among families of fallen military service personnel.



The first model music therapy programs briefly summarized are those for active duty personnel provided on military bases and installations. Some of these programs include music therapy service for service members transitioning to veteran status.

### ■ Davis-Monthan Air Force Base (AFB), Tucson

A music therapy program developed at Davis-Monthan AFB illustrates how having music therapists implement a specialized program results in a value-added contribution to available offerings on base. This program shows one example of how otherwise qualified mental health clinicians were not able to deliver the protocol, underscoring the unique contribution made by music therapists. The music therapists provided music therapy services among multiple groups on base; this paper highlights three of the programs aimed at active duty airmen working on base, spouses of deployed airmen, and families of airmen returning from deployment. Cases in Point 1, 2, and 3 describe music therapy programs at Davis-Monthan AFB.



#### Case in Point I.

##### *Davis-Monthan AFB, Drop-in Group for Airmen*

At the request of the clinical social worker and Licensed Professional Counselor working at Davis-Monthan AFB, and as an adjunct to music therapy services already taking place on the base, two MT-BCs were asked to conduct a short program among active duty airmen engaged in highly stressful mission-related tasks. The MT-BCs designed a brief program to foster positive coping and stress management skills. The program was based upon sound theoretical underpinnings found in the psychological and wellness literature. This program drew upon the music therapists' music and group facilitation skills to engage the airmen in a series of rhythm-based exercises and interactive tasks. Overall, the short program was well received, highly engaging, and resulted in very positive feedback from the airmen.

The Social Worker and Counselor asked whether they might try the same techniques and protocol at their weekly "Drop-In" group offered to airmen on base. The music therapists conducted a "train the trainer" session and reviewed protocol and techniques with the base clinicians, providing the necessary materials and equipment. Thus, the Social Worker and Counselor could test the techniques in their Drop-In group when the music therapists were not scheduled or available on base. After several weeks of Drop-In groups, the Social Worker informed the music therapists that the techniques were not working well at all in the Drop-In group. One of the music therapists returned to the base to troubleshoot and consult. The review revealed that even though the Social Worker and Counselor were trained mental health clinicians and enthusiastic about the techniques, they did not have the necessary level of music and group facilitation skills to deliver the protocol effectively. Their feedback was, "You (music therapists) make it look so easy! We are good social workers and counselors, but we are not music therapists. Music therapists need to facilitate music therapy interventions." Music therapy may sometimes seem magical, but it is not magic. Positive outcomes often result because the MT-BC is trained as a therapist **and** as a musician.

### Case in Point 2.

*Active Music Making and Music Therapy Services: An Early Intervention and Readjustment Program among Returning Military Personnel and Dependents: International Spouses – “Waiting Warriors” Wellness and Prevention Group*

At 18:00 on a hot desert evening, “a dry breeze whispered [through] the plants” in front of the base chapel. Anne entered the building and set up for a meeting with a group of nine people—Waiting Warriors. They regularly get together in support of family members waiting for their warriors’ return. Anne, a highly qualified music therapist, was ready to help the group of nine experience the power of music.

There must have been a choice of at least 30 different types of instruments, mostly drums. Some were precious to their owners, collected in far off places similar to where our warriors are serving. With some trepidation, the group began to play. Several music exercises followed and the group, assured that no music training or skill was necessary, began to come together. One person played with considerable force—it felt angry and sad at the same time. After about 10 minutes there was a pause, Anne asked a few simple questions, and the forceful player softened, smiled and said, “I can express myself without a word . . . it feels good.” The music began again.

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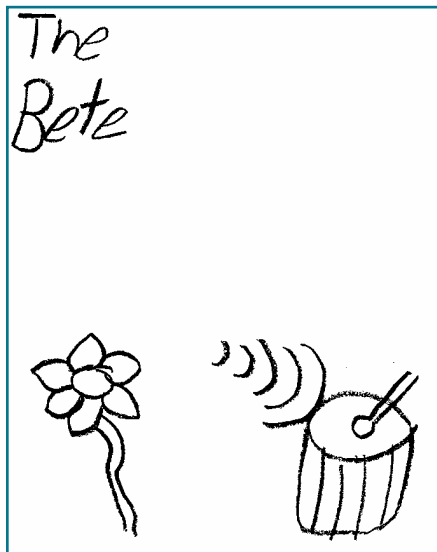
AMERICAN  
MUSIC  
THERAPY  
ASSOCIATION

### Case in Point 3.

*Active Music Making and Music Therapy Services: An Early Intervention and Readjustment Program among Returning Military Personnel and Their Dependents: Family Group*

“I felt we really needed to cut loose as a family and bang to our own drum . . . the kids have been through a really hard time during this last deployment . . . my daughter said this is better than anything—it made her feel like she was very good at something, “better than going places and riding rides and ‘stuff.’ It made her feel like she was in front of the world and she was good.”

**Diane B., USAF**



Drawing by Diane B's 7 y.o. daughter depicting her favorite part of the group.



■ **Resounding Joy, Inc., San Diego, CA**

<http://www.resoundingjoyinc.org/>

Resounding Joy, Inc., is a public-benefit California 501(c)(3) non-profit organization that has provided supportive music and music therapy since its inception in 2005. The Semper Sound Military Music Therapy Program, sponsored by Resounding Joy, Inc., provides an array of services to active duty military, service members in transition, and veterans.

Resounding Joy, Inc., works directly with returning service members and veterans diagnosed with post-traumatic stress disorder (PTSD), traumatic brain injury (TBI), substance abuse diagnoses, and other psychological and physical ailments related to combat stress and trauma. Current funding for all military programs is provided through partnerships with national organizations such as Injured Marine Semper Fi Fund and Wounded Warrior Project. Resounding Joy is honored to work closely with the military, providing music therapy services and promoting supportive musical environments amongst active and retired military members.

Specific programs provided by Resounding Joy, Inc. include:

◆ *Balboa Wounded Athlete Program (BWAP)*

Based out of the Health and Wellness department at the Naval Medical Center San Diego, this program focuses on music for wellness, education, peer engagement, and day-to-day integration of life situations through individual and group sessions. Music therapy services promote supportive music making, relaxation, lyric analysis, songwriting, and creative arts engagement. Music therapy appointments are booked by referral and appointment only. Clinical documentation is input into the ALTHA system by means of systematic progress notes.

◆ *Overcoming Adversity and Stress Injury Support, The OASIS Program*

This program involves working with active service members in an intensive ten-week residential inpatient setting at Naval Base Pt. Loma. This program provides intensive rehabilitation and teaches strategies for managing the symptoms of PTSD, TBI, and substance abuse diagnoses. Members of the OASIS program benefit from music therapy methods, practicing active and supportive music making, lyric interpretation, songwriting, therapeutic instrumental musical performance, and other Neurologic Music Therapy techniques integrated into the Semper Sound Military Music Therapy Program curriculum. As a result of these practices, the group is able to build cohesion, increase acknowledgement and insight of self and others, and improve appropriate communication skills and focus on strengths and abilities. The main goals of this program range from assisting service members for return to active duty to providing transitory support in the process of re-integrating into the community.



◆ *Camp Pendleton Semper Sound Music Therapy Program*

The Camp Pendleton Semper Sound Music Therapy Program is an eight-week wellness group. It is one of the rehabilitation programs offered by Medical Line of Operations at the Wounded Warrior Battalion-West. Marines are referred by the Department of Mental Health on base and are documented as clinical appointments. Participants engage in the Semper Sound published progressive programming, including songwriting, lyric analysis, and completing a personal music inventory. A wide variety of musical techniques are introduced to educate participants in how they can utilize music to identify, process, and appropriately communicate trauma indicators.

◆ *Intensive Outpatient Program (IOP Group)*

The IOP Group is an eight-week closed group for service members experiencing extreme symptoms of PTSD and is based in an outpatient clinic. The music therapy component is a program that focuses on progressive wellness sessions that include client-preferred music. The program is structured to understand ways in which PTSD can manifest, including inability to function, isolation, depression, hyper-vigilance, impatience, anxiety, aggression, and emotional detachment. Clinical psychologists and other mental health professionals who work in the inpatient program have observed music therapy groups and reported positive findings in the areas of communication, processing, and advocacy.

◆ *Traumatic Brain Injury Group (TBI Group)*

This currently inactive program was part of the rehabilitation of TBI. This eight-week closed group session at the Naval Medical Center San Diego served military personnel with amputations and a diagnosis of TBI. Music therapy was integrated into the eight-week closed rehabilitation program. Cohort members experienced a music therapy program of interventions that incorporated advanced facilitation of Neurologic Music Therapy techniques designed for individuals with mild, moderate, severe, and acute TBI.

◆ *Semper Sound Band*

It is common that service members frequently transfer and transition between rehabilitation programs, bases, and, ultimately, to veteran/civilian life. There are few services that are provided by the same organization at each treatment location. The Semper Sound Band was created as a model to ensure continuity and to support similar goals of the Semper Sound Military Music Therapy Program through specific facilitation techniques and the Neurologic Music Therapy techniques of therapeutic instrumental music performance (TIMP) and therapeutic singing (TS). The Semper Sound Band is performance based and provides reinforcement in the areas of:

- Sociobehavioral support
- Group cohesion



- Engagement in group dynamics
- Community re-integration through performance-based TIMP and TS
- Increase awareness and insight of self and others
- Appropriate communication skills
- Songwriting and lyric interpretation
- Music production and engineering

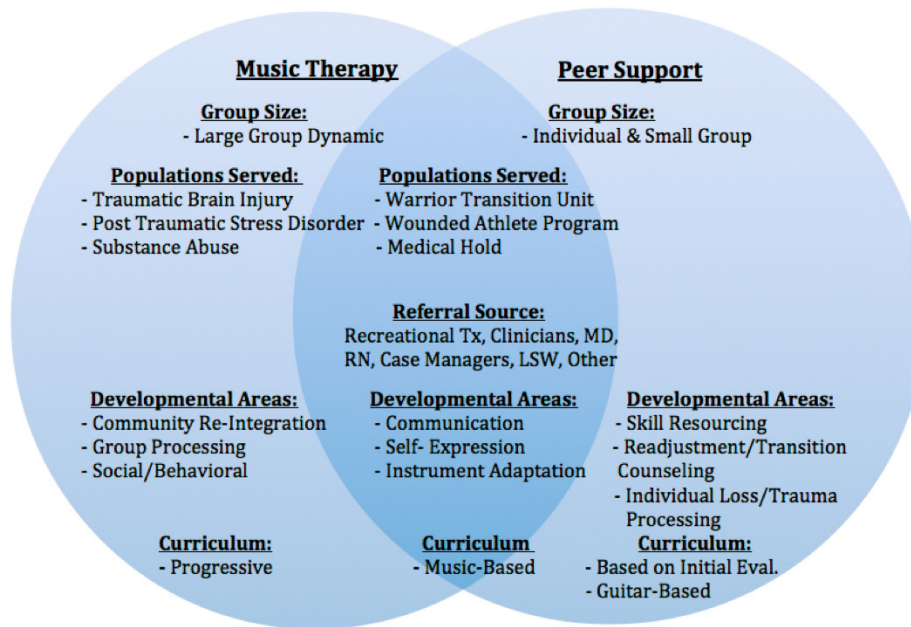
◆ *VetJam*

VetJam is a recreational music-making program offered by Resounding Joy, Inc., for active-duty military and veterans of all branches and areas of service. VetJam provides complimentary instrumental instruction on guitar, bass, ukulele, keyboard, piano, hand drums, viola, violin, and cello. Education in music, music theory, music therapy, and recreational music making are also reinforced. VetJam promotes positive coping mechanisms through individual lessons, self-study, and group jam sessions; social support via military and civilian community reintegration based on the fundamental aspects of learning to play and create music; expressive practices that aid in increased awareness of both the self and others; and improvement in overall cognitive and neurological functioning.

Diagram 1 illustrates the interrelationships among the music therapy programs directed by the music therapists at Resounding Joy, Inc. The music therapists facilitating these services noted that program participants can move between the various programs depending upon their progress and clinical needs (R. Vaudreuil, personal communication, April 7, 2013). The board certified music therapists delivering these programs are a familiar and common factor, providing continuity of services and care to the servicemen and women. The Peer Support component still involves the music therapists; however, their role and active engagement as therapists fades once the participant is at a point of closure and termination from music therapy.



Diagram 1: Semper Sound Peer Support Model



Used with permission from MusicWorx, Inc. (Vaudreuil, 2011).

### ■ National Intrepid Center of Excellence, Bethesda

<http://www.nicoe.capmed.mil/>

The National Intrepid Center of Excellence (NICoE) is located on the campus of Walter Reed National Military Medical Center (WRNMMC). NICoE is a Department of Defense Institute and unit of WRNMMC dedicated to “providing cutting-edge evaluation, treatment planning, research and education for service members and their families dealing with the complex interactions of mild traumatic brain injury and psychological health conditions” (NICoE, 2013). The NICoE Clinical Care Model is a four-week interdisciplinary and comprehensive treatment program. The model draws from the best of Western medicine, complementary and alternative approaches, and mind-body skills. A board certified music therapist was added to the interdisciplinary team in 2012 (National Endowment for the Arts, 2012) serving NICoE and WRNMMC.

Music therapy at NICoE includes services to each patient cohort receiving care. Key features of the NICoE music therapy program are:

- Each cohort receives a group music therapy session during their third week.
- Some service members also receive an individual music therapy assessment.
- Music Therapy is part of the Healing Arts Program, which includes art therapy and creative writing.

- Music therapy interventions address multiple goals:
  - (a) awareness of the mind/body connection by identifying feelings and emotions and their relationships to behaviors in daily life;
  - (b) mood;
  - (c) physical discomfort/pain;
  - (d) attention, memory and executive functioning; and
  - (e) non-verbal means of expression of thoughts, feelings, and emotions.

#### ■ Walter Reed National Military Medical Center, Bethesda

WRNMMC is known as the “Nation’s Medical Center,” serving military beneficiaries in the Washington, DC area and from across the country and around the globe. WRNMMC is the largest military medical center in the U.S. As a tertiary care facility, WRNMMC offers 100 clinics and specialties.

WRNMMC has a board certified music therapist with advanced training in Neurologic Music Therapy. All patients at WRNMMC are eligible to receive music therapy services, including active duty, retirees of the military, and dependents. To date, the clinician at WRNMMC has provided music therapy services to both inpatients and outpatients. Diagnoses include TBI (mild, moderate, severe), stroke, dysarthria, psychological health (anxiety disorders, depressive disorders, PTSD), trauma-related injuries, children with autism spectrum disorders, and cancer. Similar to the music therapy program in San Diego, a small percentage of patients are referred from the acute care setting at WRNMMC to the program at NICoE.

#### ■ Institute for Therapy through the Arts (ITA), Music Institute of Chicago, Oaktree Program <http://www.musicinst.org/military-family-service>

Founded in 1931, the Music Institute of Chicago is an accredited not-for-profit educational organization whose mission includes music therapy services as a community service for individuals with special needs. ITA designed “Operation Oaktree” as the named program for military children and families throughout the cycle of deployment. Its mission is to empower individuals to express themselves in order to foster personal growth, to deepen interpersonal roots between and among family members, to strengthen coping strategies so that families can more easily weather challenges inherent in each season of the cycle, and to make it easy for families to branch out into their communities for support. ITA uses highly qualified music, art, and drama therapists in their programming to offer an integrated arts therapy experience. Three programs are described:

##### ◆ *Get Ready, Get Set*

The mission of this family pre-mobilization programming is to strengthen family and individual resilience and readiness in advance of the disruption caused by a service member’s mobilization. The program includes services provided by a team of creative arts therapists and includes music therapists.



◆ *Growing Strong, Branching Out*

ITA's mission in this program serving families coping with a service member's current deployment is to engage and enact strategies generated during pre-mobilization services, to reassess the needs of individuals and the families as they adjust to absence, and to help the family remain connected and communicative throughout the experience. Creative arts therapists, including art therapists, dance/movement therapists, and music therapists, facilitate self-expression and insight to promote awareness of feelings and behaviors associated with the mobilization of a loved one.

◆ *Deep Roots, New Leaves: Reintegration Programming for Military Children*

In military families, "welcome home" can sometimes be more complicated than it sounds. When working with military families post-mobilization, the goal is to facilitate a smooth transition between deployment and homecoming for military families. The creative arts therapies, including art therapy, dance/movement therapy, and music therapy, serve as the delivery system for communication tools provided during workshop events and in a take-home activity book. Programming is designed to promote expressive, enjoyable interaction among all family members. This program aims to create a scaffold upon which a family can build a "new normal." In a similar program in Arizona, preliminary data collected as part of a pilot study on military family transitions indicated structured music therapy programs yielded favorable results in outcomes tied to mood, self-reported stress, and coping.

■ **Military Children, Special Needs and Waiting Warriors**

Military personnel on active duty may enroll in the Exceptional Family Member Program (EFMP). This is a program sponsored by military installations for families who have a family member with a physical, emotional, developmental, or intellectual disorder requiring specialized services. Family support programs on military installations offer an array of excellent programming for families.

Music therapists in Arizona (Davis-Monthan AFB), California (Resounding Joy, Inc.), Illinois (Music Institute of Chicago), and elsewhere provide services in cooperation with EFMP services.

Music therapists:

- lead interactive music experiences for family events;
- facilitate music-based workshops to educate families;
- implement music therapy services on and off military installations;
- provide consultations to base staff as part of the military family support programs;
- incorporate music therapy services into adult support groups for spouses of those actively deployed (Waiting Warriors);



- incorporate music therapy services into adult support groups for parents in the military who have children with special needs; and
- offer summer music therapy camps for dependent children with special needs.

### **Veterans Model Programs**

The historical roots of music therapy in Veterans Administration (VA) facilities continue today. Nationwide, VA hospitals employ 59 music therapists (at 46 of 152 VA facilities) who have Civil Service classifications (Recreation/Creative Arts Therapist Series - GS-0638) within the VA system (D. Faraone, personal communication, November 22, 2013). An additional cohort of music therapists in private practice offers part-time services under contract to specific VA programs, while others are employed as approved Government Services Administration (GSA) service providers.

### ■ **The Role of Music Therapy and Music Programs in the VA Continuum of Care**

The continuum of care for military service members begins at the point of injury or diagnosis and continues through community re-entry. Throughout the continuum of care, patients are provided with support to initiate and maintain their healing processes. It is well established that board certified music therapists have appropriate training and skills to provide treatments for military service members that result in improved functional outcomes along the continuum of care. Therefore, the music therapist functions as an active professional member of the interdisciplinary team.

In addition to music therapy interventions included in the patients' treatment plans and throughout the healing process, service members can also benefit from voluntary participation in music programs, active music making, and consultations with music therapists to develop and pursue music and arts-based skills to aid in transition and integration into the community. Some of these activities may include music and arts programming coordinated in cooperation with the music therapist and creative arts therapy team. The National Veterans Creative Arts Festival is one example of such a program. Ultimately, music and the arts afford diversions from daily routines, create pleasant experiences, and contribute to the patients' tool kit to promote resiliency and support patients' well-being. Positive experiences with music are important contributions to the lives of service members and families.



*National Veterans Creative Arts Festival and Music Therapist Support:*

Each year, the VA sponsors the National Creative Arts Festival for U.S. military veterans served by the VA medical centers nationwide. This program supports veterans' physical, social, and emotional well-being. The event is co-sponsored by the Department of Veterans Affairs and congressionally chartered veteran service organizations and civic groups. Numerous music therapists employed by the VA help support the annual event (U.S. Department of Veterans Affairs, 2013). Cases in Point 4 and 5 are examples of music therapist-supported programs.



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**Case in Point 4.**

*Wisconsin-based Iraq Veteran, Jason Moon, on his Recovery and Music Therapy*



Therapy is hard and painful, but writing a song and performing can be the breakthrough therapy someone needs. "I was able to merge the horrible experiences with the happy ones through music in order to help other veterans," Jason Moon, Wisconsin.

Other veterans can identify with Moon's songs, and the annual VA Creative Arts Festival is the perfect venue to showcase the work Moon does through Warriors Songs, a non-profit he began in 2011. His album, *Trying to Find Your Way Home*, resonates with veterans and family members and is dedicated to all those who understand the struggle.

Shep Crumrine, music therapist at the Milwaukee VA Medical Center, knows that Moon is capable of using his music to make breakthroughs with veterans that listen. "After Jason's shows, people don't just leave. They stick around." Crumrine also believes that music and creative arts therapies don't just help with the initial momentum needed for effective treatment; they keep veterans engaged for sustainable recovery.

**Source:** Tillman, 2012, October 12.



### Case in Point 5.

*Musicians of The Legendary Drifters Credit Music Therapy as 'Life-Saving'*



“Holloway and Slatton credit the saving of their lives to Music Therapist Jessie Herdon, now retired from the Hines VA. Herdon worked tirelessly to get veterans into music therapy. She finally convinced Holloway and Slatton to engage in music therapy and when she did, it changed their lives forever.”

Slatton noted that, “She [Herdon] saved my life. I was in bad, bad shape, but once she got me in her clutches, we did music therapy together.” That’s when his life began to change for the better. “I think every hospital needs to have a music therapy program,” Slatton said.

The symptoms that accompany combat-related PTSD, experienced by Holloway from his time in combat, do not magically disappear with music therapy. However, it keeps negativity off his mind and helps him cope when environmental factors trigger him. The skills acquired in music therapy mitigate his negative thoughts and allow him to function.

**Source: Tillman, 2012, October 13.**



### ■ Veterans Affairs Facilities (Nationwide)

Credentialed music therapists are integral to treatment programs across generations and among those who are receiving care through the Department of Veterans Affairs. Music therapists provide interventions that enhance physical, communication, cognitive, psychological, and socio-emotional functions that lead to the best possible quality of life for individual patients. They design music experiences to facilitate community transition and to provide opportunities to acquire, practice, and assimilate new skills into the “new normal” following disease or injury.

Music therapy programs exist in VA hospitals in 27 states plus Puerto Rico and Washington, DC. In Texas alone, five VA hospitals employ music therapists. In the VA in St. Cloud, Minnesota, five music therapists provide and administer services to patients. The following table lists VA programs employing music therapists for clinical and/or administrative services.

### Music Therapists in VA Facilities

Alabama: Tuscaloosa	New Jersey: Lyons
Arizona: Prescott	New York: Albany, Montrose, Northport
California: Palo Alto, San Francisco	North Carolina: Durham
Connecticut: West Haven	Ohio: Cincinnati, Cleveland, Dayton
Florida: Bay Pines, Miami, West Palm Beach	Pennsylvania: Pittsburgh
Georgia: Augusta	Puerto Rico: San Juan
Illinois: Chicago, Jesse Brown; Chicago, Hines; Chicago, North Chicago; Danville	South Dakota: Sioux Falls
Indiana: Ft. Wayne, Marion	Tennessee: Murfreesboro
Iowa: Des Moines	Texas: Amarillo, Big Spring, Houston, Temple, Waco
Kansas: Topeka	Virginia: Salem
Louisiana: New Orleans	Washington, DC
Maryland: Perry Point	West Virginia: Martinsburg
Massachusetts: Brockton	Wisconsin: Milwaukee, Tomah
Michigan: Battle Creek	Wyoming: Cheyenne
Minnesota: Minneapolis, St. Cloud	



Recent veterans are part of the millennial generation where technology and music are a normal part of their lives. These factors allow music therapists working in VA facilities to engage these veterans very quickly. For example, according to Tina Haynes, MT-BC, LCAT, Creative Arts Therapist at the Tennessee Valley Healthcare System, York Campus, in Murfreesboro, TN, signature injuries of PTSD and TBI are evident among the veterans in music therapy programs and services. The outpatient music therapy group at the York Campus includes a cohort of millennial generation veterans. Their pilot program was co-led by a music therapist and a speech language pathologist. The biweekly group met over eight weeks for intense work on building attention and cognitive endurance. The therapists used specific music therapy interventions each week to address deficits in four types of attention: sustained, selective, alternating, and divided attention. At this time, the feedback on the group is encouraging and the pilot data are promising (Kaplan, 2013; T. Haynes, personal communication, September 18, 2013).

*Section II described a diverse sample of model music therapy programs for military personnel across the spectrum of military service. Music therapy programs serve many differing needs of military personnel and their families. Section III defines evidence-based music therapy practice, details an example of opportunity for collaborative research, and summarizes pertinent selected research in rehabilitation areas.*



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## SECTION III. RESEARCH

### Introduction

The music therapy profession endorses evidence-based music therapy practice. This evidence-based practice integrates the best available research (quantitative and qualitative); the music therapists' expertise; and the needs, values, and preferences of the individual(s) served (AMTA, 2010). Published peer-reviewed research spans a long history for the music therapy profession, beginning with the publication of the *Journal of Music Therapy* in 1964. In addition, research on music therapy interventions is published in diverse scholarly journals in the U.S. and around the world. A cohort of highly qualified music therapists and researchers is funded by National Institutes of Health (NIH) research grants examining a variety of questions and clinical populations.

Like other professions, the level of evidence and emerging findings inform practice. There are numerous systematic reviews and meta-analyses on a variety of important topics and questions in the peer reviewed research literature including topics relevant to service members and veterans. The DOD and VA have a long and impressive history in supporting health research. However, support for research in music therapy across the military continuum has been inconsistent and episodic. As a consequence, music therapists working with military populations often rely on music therapy and related research conducted among nonmilitary populations. Given the complex nature of service members' clinical presentation and needs, replication of high priority studies merits consideration. Study replication also contributes to our understanding of various interventions' feasibility and generalizability of findings. This is especially important where the military is experiencing patients with high priority signature conditions (e.g., TBI, PTSD), high volume conditions, and highly problematic presentations (e.g., polytrauma).

Common to all areas of music therapy research and practice is a robust theoretical foundation. Theoretical orientations among music therapists are typically influenced by therapists' education and training programs and by their practice specialties. Common approaches include, but are not limited to, psychodynamic, behavioral, neurobiological, and humanistic orientations (Davis et al., 2008; Wigram, Petersen, & Bonde, 2002).

#### *Collaborative research:*

Over the past 20 years there has been an important expansion of collaborative research among music therapists, other health professionals, and neuroscientists aimed at examining the neural substrates of human response to music. This effort



is intended to better inform and refine music therapy protocols and techniques. Ground-breaking work is informing and refining music therapists' interventions for service members with signature injuries. Music therapists with advanced practice training in neurology, neuroimmunology, and neuropsychimmunology are making a difference in rehabilitation settings in cooperation with interdisciplinary teams. For persons with certain brain injuries, the initial 60–90 days following injury tend to be critical in predicting the overall recovery. Important collaborative research is underway, and more is needed, to validate, build, and replicate emerging findings associated with recovery outcomes and the rate of recovery with and without music therapy services. Almost all of this research is occurring outside of the military.

#### Case in Point 6.

##### *Collaborative Research and Economics: Case of Parkinson's Disease and Music Therapy Interventions*

Sustained and extreme exposures to stress are associated with neurodegenerative diseases like Parkinson's and Alzheimer's diseases. (One theory is that genetic predispositions to these diseases are triggered by environmental exposures to toxins and/or traumatic brain injury.) Fortunately, patients with Parkinson's and Alzheimer's disease respond to music therapy interventions. There are currently 80,000 veterans with Parkinson's disease (PD) alone. The Department of Defense currently has a program supporting PD research (\$16 million for FY12). There is currently no cure for these diseases. As the population ages, medical costs will also rise.

While there is no current cure for PD, music therapy interventions provide an alternative and complementary therapy that may aid life quality through symptom management. As a result, individuals may remain as viable members of the work force for as long as possible, an outcome that has financial implications for families and programs that provide support for those who have disabilities. Symptom management is central to treatment programs in PD, while efforts continue to find drugs that may lead to a cure. Ultimately, new drugs require 10 to 15 years for FDA approval and the need for alternative therapies will continue for some time. In the meantime, the costs for medical care continue to escalate.

Neuroscience researchers, physicians, therapists, patients, and caregivers must collaborate to gain the most comprehensive information possible. Collaborative research is a dynamic interplay of knowledge, skills, and abilities that lead to best outcomes. A broad translation of information is needed to advance knowledge in the care and treatment of veterans who undoubtedly have a higher chance of developing an incurable, high-cost neurodegenerative disease due to combat exposure.

**Elizabeth Stegemoller, PhD, MT-BC, Assistant Professor and Neuroscientist, Iowa State University, (personal communication, March 13, 2013)**



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*Evidence from music therapy research stems from specific, defined interventions delivered in the context of a therapeutic relationship. Caution is advised regarding the generalizability of interventions and strength of evidence when interventions are adapted by other health and non-health professionals.*

## Selected Music Therapy Research

In this paper, research in music therapy was chosen for its potential relevance to service members' needs for interventions that restore function. As referenced earlier, the state of the science is such that the majority of these studies were conducted amongst civilian populations. Both replication studies and feasibility studies on topics unique to military populations represent important future research activities. These studies highlight evidence on numerous important outcomes, inform music therapy clinical practice, and demonstrate the history of music therapy treatment to enhance functional outcomes. The cited studies are annotated briefly and categorized according to rehabilitation areas that are viable whether functions are impaired by injury or disease. References to rigorous systematic reviews or meta-analyses are marked with an asterisk. The categories included are:

- Sensorimotor, Physical Rehabilitation
- Cognitive Rehabilitation
- Communication and Speech Rehabilitation
- Pain Management and Social, Emotional and Behavioral Health

### ■ Sensorimotor, Physical Rehabilitation

- ◆ A music cued movement intervention for persons with Parkinson's disease facilitated enhanced physical outcome measures and quality of life (Clair, Lyons, & Hamburg, 2012).
- \*◆ Rhythmic auditory stimulation is effective in rehabilitation of those with acquired brain injury (Bradt, Magee, Dileo, Wheeler, & McGilloway, 2010).
- ◆ VA participants who received rhythmic auditory stimulation, a Neurologic Music Therapy technique, following strokes improved their one-limb stance, cadence, velocity, stride-length, and posture significantly more than control participants (Hayden, Clair, Johnson, & Otto, 2009).
- ◆ Rhythmic cueing delivered through the auditory system can facilitate improved motor control and motor output following injury (Malcom, Lavine, Kenyon, Massie, & Thaut, 2008).
- ◆ Rhythmic auditory stimulation resulted in better gait training gains than NDT/Bobath training in persons with hemiparetic strokes (Thaut et al., 2007).
- ◆ Rhythmic auditory stimulation facilitated improved gait speed, stride length, and gait speed, which carried over for up to 15 minutes following training (Hausdorf et al., 2007).
- ◆ Persons with emphysema who participated in a music therapy singing intervention experienced improved breathing patterns and better quality of life (Engen, 2005).



- ◆ Young adult participants who moved their arms to and from a target adjusted their movements with rhythmic cues that were below the threshold of conscious recognition; further, the changes occurred within two movement cycles with adaptation occurring in the first movement cycle (Thaut & Kenyon, 2003).
- ◆ Patients with paretic arms from strokes had decreased variability in their arm movements with rhythmic cuing (Thaut, Kenyon, Hurt, McIntosh, & Hoemberg, 2002).
- ◆ Patients with traumatic brain injury (TBI) responded to rhythmic auditory stimulation (RAS) with increased walking cadence, stride length, and velocity (Hurt, Rice, McIntosh, & Thaut, 1998).
- ◆ Synchronization between step frequency and rhythmic cues in persons with mild to moderate Parkinson's disease indicates rhythmic entrainment occurs even with the presence of basal ganglia dysfunction (McIntosh, Brown, Rice, & Thaut, 1997).
- ◆ Rhythmic auditory stimulation (RAS) improved cadence, velocity, and stride length in patients with Parkinson's disease who participated in a home-based training program (Thaut et al., 1996).

#### ■ Cognitive Rehabilitation—

*(includes development of cognitive functions impaired by injury or disease.)*

- ◆ Participants with post-traumatic stress disorder (PTSD) experienced greater reductions in symptoms with music therapy than with cognitive behavioral therapy (Carr et al., 2012).
- ◆ Music therapy interventions improve consciousness in the acute management of acquired brain injury (Meyer et al., 2010).
- ◆ Treatment participants with brain injury demonstrated improvements in executive function (Thaut et al., 2009).
- ◆ Active engagement in music therapy reduces psychomotor agitation in patients who have severe brain injuries (Formisano et al., 2001).
- ◆ Music during coma evokes physiological reactions to sound stimuli that regulate cardiovascular and cortical rhythms to promote consciousness (Aldridge, 1996).
- ◆ Brain injured patients in a vegetative state can initiate pillow-pressing responses to turn on preferred recorded music (Boyle, 1994).
- ◆ Persons in comas have changes in heart rate, respiration rate, and intracranial pressure with auditory stimulation (Boyle, 1989).



- ◆ Clinical descriptions of music therapy outcomes at Rancho Los Amigos Scale Levels I-III for functional assessment include alert responses, oral motor movements, changing facial expressions and vocalizations; outcomes at Rancho Los Amigos Scale Levels IV-VI reveal effectiveness of music therapy to enhance adherence to exercise regimens (Clayes, Miller, Dalloul-Rampersad, & Kollar, 1989).
- ◆ Brain injured patients in vegetative states for 6 to 38 months can respond to verbal requests to make lateral head or finger movements, eye focus or eye squeezes, and mouth movements contingent upon hearing preferred recorded music (Boyle & Greer, 1983).

### ■ Communication and Speech Rehabilitation

- ◆ A music therapy protocol for patients who had strokes and dysarthria increased their maximum phonation time, fundamental frequency, and average intensity after treatment (Kim & Jo, 2013).
- ◆ Group music therapy improved singing quality, and voice range while speaking quality was maintained in persons with Parkinson's disease (Elefant, Baker, Lotan, Lagesen, & Skeie, 2011).
- ◆ Music therapy for persons with nonfluent aphasia demonstrated singing strengthens breathing and vocal ability, improves articulation and speech prosody, and increases verbal and nonverbal communication (Tomaino, 2012). Music and language are linked in the structural patterns and brain processing in those with aphasia (Patel, 2005).
- ◆ Persons with TBI who participated in a music therapy singing intervention gained vocal range, experienced improved mood, and had better affective intonation (Baker, Wigram, & Gold, 2005).
- ◆ Auditory rhythmicity enhances movement and speech motor controls in Parkinson's disease to restore speech function (Thaut, McIntosh, K.H., McIntosh, G.C., & Hoemberg, 2001).
- ◆ Hypokinetic dysarthric speakers with Parkinson's disease improved their speech intelligibility with rhythmic speech cuing (RSC) (Thaut et al., 2001).
- ◆ Persons with Parkinson's improved their speech intelligibility and vocal intensity after participating in a music therapy protocol (Haneishi, 2001).



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### ■ Pain Management and Social, Emotional and Behavioral Health

- ◆ Adolescents who participated in psychotherapy percussion playing had lower trait anger, decreased aggression, lower depression, and increased self-esteem, all of which maintained for six months. At nine months post-treatment, participants maintained lower trait anger and anger expression (Currie & Startup, 2012).
- ◆ Music therapy using Emotional-Approach Coping yielded increases in positive affect for patients who were liver and kidney transplant recipients (Ghetti, 2011).
- \*◆ Music therapy interventions have positive effects on anxiety, pain, mood, and quality of life in people who have cancer (Bradt, Dileo, Grocke, & Magill, 2011).
- ◆ Songwriting and instrument playing led to improved self-organization and affective expression (Vaudreuil, 2011).
- ◆ Music therapy in traumatic brain injury rehabilitation improved patients' overall emotional adjustment while it decreased depression, sensation seeking, and anxiety; although control participants had better emotional adjustment and less hostility, they had decreased memory, positive affect, and sensation-seeking behaviors (Thaut et al., 2009).
- ◆ Social interaction is promoted through group music making (Bensimon, Amir, & Wolf, 2008).
- ◆ Associations connected to trauma and traumatic memories were accessed in a non-intimidating way through group drumming, and emotional expressions (e.g., rage) were facilitated while promoting a sense of relief and empowerment (Bensimon et al., 2008).
- ◆ Though trauma can isolate and disconnect individuals from society, group drumming restored social relationships by fostering feelings of belonging (Bensimon et al., 2008).
- ◆ Traumatic memories and evoked emotions were managed through group improvisation (Bensimon et al., 2008).
- ◆ Anxiety and pain are reduced during burn dressing changes with self-selected music listening (Son & Kim, 2006).
- ◆ Chronic pain and narcotic ingestion are reduced through music distraction and relaxation (Colwell, 1997; Siedliecki & Good, 2006).



- ◆ Improved vocal range and mood, along with enhanced affective intonation styles, result from song singing (Baker, Wigram, & Gold, 2005).
- \*◆ Music and music-assisted relaxation reduces arousal associated with stress (Pelletier, 2004).
- ◆ Increased socialization, improved mood, and participation in the standard rehabilitation processes occur through group singing, composing, sounding instruments, improvising, performing, and listening (Nayak, Wheeler, Shiflett, & Agostinelli, 2000).
- ◆ Bonny Method of Guided Imagery and Music (GIM) was associated with reductions in cortisol levels and improvements in depression, fatigue, and mood in healthy adults (McKinney, Antoni, Kumar, Tims, & McCabe, 1997).
- ◆ Stressors were identified through music imagery, improvisation, and songwriting (Blake & Bishop, 1994).
- ◆ Daily coping skills were established through progressive muscle relaxation to live music (Blake & Bishop, 1994).
- ◆ Music-assisted progressive muscle relaxation provided tension control (Blake & Bishop, 1994).

In summary, future progress in understanding the effectiveness and impact of various music therapy interventions among military populations involves recognizing and understanding the quality and level of evidence in existing music therapy research literature. While this brief overview of selected research did not rate the quality of evidence, it is important to note that systematic reviews and meta-analyses exist for numerous important questions. Evidence-based music therapy practice involves the triangulation of the best available research evidence with (a) the clinician's skills and experience; and (b) the patient's needs, preferences, and values. Music therapy services in military medical facilities and VA hospitals take place in a dynamic clinical environment. Therefore, in consideration of high-priority areas where effective and efficient treatment options may be employed among military populations, it is important that collaborative research activities factor the impact of music therapy interventions on patient outcomes. Though the music therapy literature has numerous studies that investigate topics relevant to the military, there is great need for more clinical studies to (a) support evolving music therapy practices necessary to improve life functions in service members and families across the country, and, (b) align with service delivery models including patient-centered care teams in military health facilities and veterans hospitals.



## SECTION IV: RECOMMENDATIONS & CONCLUSIONS

As an outgrowth of the discussion contained in this paper, an array of recommendations is posited below. These recommendations are aimed at guiding and prioritizing future collaboration among all stakeholders to improve access to music therapy services for military members and their families across the continuum of service. Recommendations are loosely organized and divided into three main categories of research, practice policy, and treatment and program development.

### Recommendations

#### Research—Recommendations

- ★ testing and adapting (as needed) of established music therapy interventions and protocols among military populations
- ★ replicating studies in military populations where the base of evidence was formed in presumed comparable civilian populations
- ★ obtaining adequate power and sample size in experimental studies
- ★ including mixed methods and feasibility studies, as appropriate
- ★ including music therapy investigators in collaborative interdisciplinary research teams and research planning process
- ★ including qualified music therapy scholars/researchers in military and VA study sections and human subjects/IRB committees
- ★ developing mechanisms to efficiently translate important research findings to practice
- ★ evaluating the impact of using music therapy services to complement and support innovative treatment technologies and methodologies
- ★ aligning with, and support of, service delivery models including patient-centered care teams
- ★ surveying and planning for research funding support



### Practice Policy—Recommendations

- ★ conducting a job reclassification review for music therapists in the VA
- ★ conducting a job classification review to improve access to music therapy services for service members and their families
- ★ involving music therapy professionals in interdisciplinary clinical services planning and evaluation activities such as Integrative Medicine and VA quality care initiatives
- ★ reviewing and expanding current financing mechanisms and value propositions to finance music therapy services
- ★ briefing relevant military leadership on TRICARE and third-party reimbursement activity
- ★ addressing barriers to gaining access onto military installations where music therapy services are requested for contractual personnel
- ★ establishing music therapists as supervisors/leads and providing referrals to artists/musicians in order to coordinate arts programming

### Treatment and Program Development—Recommendations

- ★ conducting a survey of music therapy services across all VA facilities/regions to understand the current scope, organization, and range of music therapy services
- ★ exploring music therapy program expansion on units in military treatment facilities where high-yield results are documented in civilian hospitals, e.g., procedural support, NICU, outpatient oncology, neuro-rehabilitation services

### Conclusions

The roots of music therapy in the military span over 70 years of service in the United States. This legacy covers the entire continuum of care among service members, veterans, and their families. Music therapy services are an integral part of treatment delivered in military treatment facilities and VA medical centers throughout the country. Music therapy evolved from the early provision of music in military hospitals, to adjunctive treatment, to the delivery of evidence-based medical interventions. Today's healthcare standards dictate that the provision of quality music therapy services must be delivered by board certified music therapists (MT-BC). Currently, music therapy as a profession is recognized throughout agencies of the federal government including the Departments of Education, and Health and Human Services, the National Endowment for the Arts, and by various accrediting bodies; however, utilization and awareness of music therapy services across federal direct care services and facilities is variable.



There are numerous examples of music therapy programs in the military across the country, and many are identified in this paper. They range from a program for active duty airmen to foster coping and stress management around deployment, to programs that center on songwriting to address issues associated with symptoms of PTSD, to programs that serve service members and veterans with polytrauma in rehabilitation.

Music therapists are actively involved in contributing to a strong base of evidence in support of various music therapy interventions, drawing from high quality research. Numerous important studies over the profession's nearly 70 years of research history are relevant to service members and veterans. Research designed to investigate evidence-based music therapy interventions, including collaborative studies, is a priority. Though the music therapy literature has numerous studies that investigate topics relevant to the military, there is a need for more clinical studies to support evolving music therapy practices necessary to improve life functions in service members and families across the country.

The purpose of this paper was to outline the status of music therapy in the military. This information provides the groundwork to improve access to music therapy services among military populations and inform strategic plans for expanded and prioritized implementation of music therapy programs, research, and practice policy in the military.



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