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Title:

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Date:

2006

Citation:

TAMPLIN, J. (2006). Development of a music therapy service in an Australian public rehabilitation hospital. *Voices: A World Forum for Music Therapy*, 6 (1), <https://doi.org/10.15845/voices.v6i1.245>.

Persistent Link:

<https://hdl.handle.net/11343/326727>



Development of a Music Therapy Service in an Australian Public Rehabilitation Hospital

By Jeanette Tamplin [|Author bio & contact info|](#)

Introduction

It is often challenging to find information about the details and development of clinical music therapy programs in other parts of the world. This article addresses a gap in the literature by describing the evolution of a neurological rehabilitation program over the past two years in Melbourne, Australia. After providing some local details on the development of rehabilitation music therapy in this part of the world, a brief rationale is offered for the place of music therapy in clinical rehabilitation services. This is followed by a detailed description of the implementation, operation and evaluation of the music therapy program established at the Royal Talbot Rehabilitation Centre in 2004. Music therapy in adult neurological rehabilitation is still an emerging area of practice in Australia. Although the first music therapy service for adult rehabilitation was piloted and developed here over 13 years ago, few rehabilitation facilities currently employ music therapy as a standard part of rehabilitation service. Although research and practice of music therapy in rehabilitation internationally is relatively new, it has been practiced for around 20 to 30 years in the United Kingdom and the United

States of America respectively. The scarcity of music therapy positions in rehabilitation facilities in Australia is possibly a reflection of the lack of understanding of music therapy on the part of funding bodies and the shortage of rigorous music therapy research in this field. The establishment of new music therapy positions in rehabilitation facilities reflects the development of music therapy in neurorehabilitation internationally in terms of research, clinical practice and publications.

Background to the Program Development

I began working in the area of adult rehabilitation in 1999 at Ivanhoe Private Rehabilitation Hospital, where the first music therapy program in neurological rehabilitation in Australia was established by Dr Felicity Baker in 1992. Since then I have also worked on a contractual basis with several rehabilitation hospitals in Melbourne in the field of Acquired Brain Injury (ABI) rehabilitation. It was through this work that the Music Therapy Service at Royal Talbot Rehabilitation Centre developed. In 2002 and 2003, I was contracted (with funding from the Victorian Department of Human Services (DHS) Slow to Recover Program) to provide music therapy programs for 2 young men with an ABI at the Royal Talbot Rehabilitation Centre (a public rehabilitation hospital in Melbourne). Following considerable interest from staff in these music therapy programs, a staff education session on music therapy was run at the hospital in August 2003. Inspired by this, a proactive member of the Social Work Department at the hospital undertook to assist in seeking funding to establish an ongoing music therapy program.

This search was successful and in late 2003 grants totaling \$109,625 were received. The William Buckland Foundation provided \$74,625 to establish the program with a half-time Senior Music Therapist position (20 hours per week) and to undertake an independent external evaluation of the program. A second grant of \$35,000 from the Diana Browne Trust, through the Perpetual Trustees, enabled the program to expand in September 2004 with the appointment of a second half-time Grade 2 music therapist. These two grants provided sufficient funding to continue both positions until 30th June 2005. In early 2005, a second submission to the William Buckland Foundation was approved to allow the program to operate until June 2006 and to pursue the search for ongoing funding. This funding also provided an additional four hours per week to pilot a music therapy service in acute wards at the main campus of Austin Health, the Austin Hospital (a general public hospital), including the acute spinal ward and paediatric ward.

History and Philosophy of the Hospital

Royal Talbot Rehabilitation Centre (RTRC) is a campus of Austin Health, one of Australia's largest teaching hospitals and medical research centres. It is a specialist public facility, of international standard, providing a comprehensive and coordinated range of medical, nursing, therapy and support services. RTRC provides intensive rehabilitation programs through an interdisciplinary approach and caters to a wide variety of patient needs. The hospital consists of five major clinical units: spinal cord injury, acquired brain injury, neurology, amputee and orthopaedic. A team of health professionals works with each patient and his or her family to maximise recovery and functional independence following an injury or illness. The maximum inpatient capacity across all five clinical units is approximately 70 and the hospital offers specialist rehabilitation services (including other creative therapies such as art therapy and horticulture therapy) to patients from across Victoria, Southern NSW and Tasmania to approximately 800 inpatients and 8000 outpatients per year.

The Music Therapy Service at RTRC

Currently, the Music Therapy Service at RTRC provides individual and group music therapy programs to inpatients and outpatients from all five clinical units at the hospital. Additional funding has also enabled music therapy service provision to the Brain Disorders Unit for patients with a dual diagnosis of ABI and psychiatric issues and pilot programs in the acute spinal ward and paediatrics ward at the Austin Hospital. The goal of the Music Therapy Service is to enhance the hospital's interdisciplinary rehabilitation approach and to enhance the achievement of patients' rehabilitation goals.

Music Therapy in Rehabilitation

Rehabilitative music therapy has been defined as "the use of musical experiences and the relationships that develop through them as a means of helping clients who have been debilitated by illness, injury or trauma to regain previous levels of functioning or adjustment to the extent possible (Bruscia, 1989, p 98). In addition to the capacity for music therapy to address physical, cognitive or communication goals, it also offers a non-verbal means for externalising and working through the social and emotional issues that may arise as a result of hospitalisation and adjustment to trauma. Other areas addressed through music therapy at RTRC include relaxation, pain management, sensory stimulation and motivation for therapy.

Music therapy can play a unique role in the assessment and treatment of neurology patients because music processing utilizes different pathways in the brain to verbal processing. In fact, research has demonstrated that by using music and language in combination, more preserved neural pathways are accessed than when using language alone (O'Callaghan, 1999; Cohen, 1992). In addition, therapeutic singing and vocal exercises can be effective in the treatment of a variety of neurological communication disorders. There is a clear connection between singing and speech in that they are both forms of communication and share many of the neural mechanisms used for speech, e.g. the use of respiratory muscles and the articulators. They also share many other common elements, such as rhythm, pitch, dynamics, tempo, and diction. Singing familiar songs provides the rhythmic and melodic cues for patients to organise their speech production and subsequently improve intelligibility and naturalness (Tamplin, 2005).

In terms of physical rehabilitation, rhythm is a fundamental requirement for movement coordination. A body of research exists demonstrating the clear relationship between the neural processing of rhythmic auditory stimulation and cortical arousal of the motor system. In particular, rhythmic auditory cuing has been shown to stimulate the motor system and facilitate improved movement efficiency in terms of improved gait and organisation, and timing of muscle movements for people with neurological damage (MacIntosh, Thaut, & Rice, 1996; Thaut, MacIntosh, Prassas, & Rice, 1993). In addition, playing an instrument involves not only visual feedback, but also kinaesthetic and aural feedback about the movement. Playing music is often an intrinsically rewarding and motivating experience for patients, which only enhances its potential for physical rehabilitation and/or emotional processing.

In cognitive rehabilitation, music can function as a mnemonic aid where songs are written to trigger recall of important information (Gervin, 1991). This is particularly relevant for people with neurological damage, especially those with hypoxic brain damage, where memory is more likely to be impaired. Rehabilitative music therapy often involves the use of percussion activities that are designed to address and develop various types of attention (eg. sustained attention, selective attention, alternating attention) as well as address issues such as direction following, initiation, impulsivity and perseveration. Song listening and discussion is another music therapy technique used to assess and address listening skills, information recall, concentration, and abstract thinking.

Dealing with socio-emotional issues is however, one of the most significant areas of music therapy intervention at RTRC; dealing with the grief, loss and adjustment issues subsequent to severe trauma or illness. A range of music therapy techniques, including songwriting, improvisation, song listening and discussion and music-assisted relaxation, are used to assist patients to express themselves, either verbally or musically. Dealing with emotional issues is particularly important in a rehabilitation setting as unresolved negative emotions or social behaviours may impact on a patient's or ability to participate in rehabilitation.

RTRC Music Therapy Program Implementation and Operation

Six criteria were targeted for the music therapy service to address in order to measure successful implementation and operation of the program. These were are follows: 1) promotion of the program to staff and patients, 2) development and implementation of detailed referral procedures, 3) development and implementation of appropriate assessment procedures, 4) timely participation of a number of referred and assessed patients, 5) mix of individual and groups sessions conducted, and 6) effective documentation, management, supervision, reporting, administrative and financial accountability systems in place (Montague, 2005).

The referral system implemented highlighted five key areas for music therapy referral (physical, communication, cognitive, social/emotional, and other), each of which was broken down into specific areas to be address in music therapy. Table 1 below identifies the percentage of patients referred for each area.

Table 1. Reasons for referral to music therapy (Mar 2004 - Mar 2005)

Clinical unit	Pre-coded rehabilitation area:				Other rehabilitation areas specified on referral:			
	Social & emotional rehab	Physical rehab	Communication rehab	Cognitive rehab	Relaxation	Pain management	Motivation for treatment	Sensory stimulation
TOTAL	49	23	21	19	37	13	9	2
Referrals =88	56% of all referrals	26% of all referrals	24% of all referrals	21.5% of all referrals	42% of all referrals	15% of all referrals	10% of all referrals	2% of all referrals

*Patients could be referred for more than one aspect of rehabilitation

RTRC Music Therapy Program Evaluation

"Music therapy, as a relative newcomer to the field of adult post-trauma rehabilitation has rarely been objectively evaluated as to its impact in relation to the achievement of rehabilitation goals. Where research has been carried out, it consists largely of small-scale studies, generally of a qualitative and descriptive nature, that focus on patients with a specific disability" (Montague, 2005, p3). The external evaluation of the Music Therapy Service at RTRC identified a number of specific ways in which patients benefited from participation in music therapy, both in the early stages of recovery and at later stages in the rehabilitation process. Data was drawn from both program and patient documentation and from key stakeholders including patients and staff (including music therapy, medical, allied health and management staff). This data suggests that music therapy assisted in

- "improving specific physical skills such as balance, dexterity, mobility, reduction of physical tension, limb co-ordination etc,
- improving specific communication skills such as breath and saliva control, improved voice pitch, volume and control, lung function, articulation, diaphragm work, etc,
- improving specific cognitive skills such as memory, concentration, increasing attention, following instructions, reducing repetition, perseveration or fixation, planning and learning skills etc,

- orienting, relaxing, and calming agitated and distressed patients,
- providing strategies for patients to use for mental and physical relaxation and for pain management,
- providing a means of reaching and motivating non-verbal patients,
- providing a therapy in the early stages of post-traumatic amnesia when no other rehabilitation therapy can be used,
- providing staff with strategies to calm and soothe patients and to manage challenging behaviour,
- enabling patients to identify and express frustration, grief and loss issues,
- involving patients in activities that increase their confidence and self esteem,
- assisting patients to communicate with grieving and distressed loved ones and family members,
- providing family members with hope and the possibility of recovery for their loved one,
- educating staff to consider prior skills and interests as part of the patient and thus to have a clearer focus on reintegration into the community" (Montague, 2005, pp. 43-44).

In addition, data gathered for the evaluation also suggested "music therapy assisted patients to benefit from other therapies both directly by working in concert with other therapists and indirectly by increasing motivation and lifting mood and thus increasing capacity to participate in rehabilitation". Examples of how music therapy has enhanced the effectiveness of other therapies include:

- "providing for some patients, especially those with a recent brain injury, a therapy when no other therapies are possible,
- lifting mood, providing hope for the future and managing depression, thereby increasing motivation to participate in other therapies,
- providing a vehicle or medium through which other therapists can engage patients, be this simply by providing something to talk about, or by means of specific functional methods,
- supporting and educating other therapists, by the use of joint approaches, by having a range of music strategies that can assist therapists working on functional goals, and by enabling patients to articulate and share their emotional journey in such way that other therapists can be more empathic and effective in their own work" (Montague, 2005, pp. 44-45).

Music Therapy Participants

Over a one-year period, a total of 88 patients participated in individual music therapy sessions; half of these patients were resident in the spinal unit and in ABI (43). Another third (32) were from the neurology, amputee or orthopaedic units. A comparison of these figures with total patient population over the same period indicated that by unit of residence, patients attending individual music therapy sessions represented 22% of all spinal patients; 20% of ABI patients, 16.5% of neurology, 7% of amputees, and 2% of orthopaedic patients. Three quarters of individual session music therapy patients were male, compared to 59% of the total patients over the same period. Patients of all ages attended music therapy (18 to 82 years), with some variations depending on unit of residence. In general music therapy patients were close to the average age of all residents in the specific unit, except in the case of neurology and orthopaedic units where music therapy participants were significantly younger than the average patient (Montague, 2005).

Intensity of participation in music therapy

Length of participation in music therapy for each patient varied from half a session to 81 sessions, with an overall average of 14.4 sessions. Patients from the spinal unit had the highest average intensity of participation (22.9 sessions), followed by outpatients (19.9 sessions) and ABI (13.3 sessions). Just over a quarter of all patients during the year (23 individuals) attended 20 or more sessions. Of the other patients, 18% attended between 10 and 19 sessions (making a total of 44% who attended 10 or more sessions); whilst 56% attended fewer than 10 sessions. The duration of participation in music therapy paralleled the average length of stay for patients at RTRC. Spinal and ABI patients had longest length of stay and the greatest number of patients participating in 20 or more sessions of music therapy. Orthopaedic and amputee patients had the briefest average length of stay and most took part in fewer than 9 sessions (Montague, 2005).

Impact of Music Therapy for Patients

A triangulated assessment was conducted on the impact of music therapy for patients who had participated in eight or more sessions of music therapy. This triangulated approach involved 3 assessments of the impact of music therapy on various areas of each patient's rehabilitation, in addition to the overall impact. The assessments were completed by the patient, the patient's music therapist, and one other member of the patient's rehabilitation team. Each assessment involved assigning a score between 1 and 4 for the perceived impact of music therapy on each of the each of the possible areas of intervention and providing comments. These assessments were averaged for each patient, thus providing an assessment of the perceived impact from 3 key perspectives. The results of these assessments are presented in Table 2 below.

Table 2. Impact by area of rehabilitation and unit of residence

Unit of residence	Social and emotional	Communication	Physical	Cognitive	Overall	Total N patients assessed
	N of patients scored average score#					
ABI	8 patients 3.4	8 patients 3.2	6 patients 3.0	10 patients 2.3	12 patients 3.0	12
Spinal	10 patients 3.3	1 patient 3.3	5 patients 3.1	1 patient 2.0	11 patients 3.3	11
Neurology	8 patients 2.9	4 patients 2.5	5 patients 2.9	2 patients 1.8	11 patients 3.0	11
Amputee	5 patients 2.6	-	-	-	5 patients 2.8	5
Orthopaedic	1 patient 3.3	-	-	-	1 patient 3.3	1

Scores are based on an allocation of a score of 4 for critical and very significant impact, 3 for significant impact, 2 for small amount of impact and 1 for no impact.

The highest score in relation to the effect of music therapy on the overall rehabilitation of the patients was recorded for spinal unit patients and the one orthopaedic patient at 3.3 (slightly above significant). Music therapy for ABI and neurology patients was assessed at 3 (significant impact). Overall impact in relation to amputee patients was assessed as 2.8 (just below significant). In terms of the specific aspects of rehabilitation, social and emotional impact was assessed as highest for all patient groups, and impact on cognitive rehabilitation as lowest. Below are some patient comments on their experience of music therapy.

It's a totally different sort of session. In music I found a way to express myself and to recognise in songs the way I was feeling. It was also a way of getting away from the everyday world of the unit, the nursing etc. And we needed that! (Montague, 2005, p. 29).

It really helped get my fingers moving again (Montague, 2005, p. 29).

People could not hear me; I had problems with my voice. Because of music therapy, my voice changed, it got louder and louder (Montague, 2005, p. 33).

It gave me something to look forward to, it gave me motivation. When I started music therapy, then I got stuck into the gym work. It got me working harder at the physical rehab. I wasn't interested before, I was so far down (Montague, 2005, p. 35).

It kept me sane! You have so much taken away from you, such a gaping loss; music therapy gives you something you can do (Montague, 2005, p. 32).

Music is more personal, less clinical than the other therapies, I feel like we are doing it together. It is totally different, I get so absorbed in it, I forget what is wrong with me. It is a distraction, it helps me with my chronic pain, it is the one thing I can use to take my mind off it (Montague, 2005, p. 35).

Staff Knowledge of the Program

Interviews with staff and focus groups provided important information about staff understanding of music therapy and perception of the program. Over the course of the program development, it became clear that staff understanding and perception of music therapy varied greatly and continued to evolve due to consistent staff education and opportunities for collaborative work. In particular, staff began to better understand the role of music therapy in physical and cognitive rehabilitation in addition to facilitating emotional expression and adjustment. Some staff commented that discussion with patients about their progress in music therapy (or hearing a song that a patient had written) opened a doorway for communication about issues that would otherwise not arise in their own therapy sessions. Music therapy was also often cited by staff as an effective behaviour management tool; helping to facilitate expression, engagement and motivation, initially in music therapy sessions and subsequently in other therapies also. Some staff has also commented that music therapy had helped them to perceive a patient as a whole person and better understand the patient's experience of injury, identity and hospitalisation. Below is a sample of staff comments on the program.

We have found that music therapy can play a role helping patients to reach tangible functional physical rehabilitation goals, as well as playing a very important role in helping patients at the social emotional level - Social Worker (Montague, 2005, p. 22).

Music therapy is another therapy that assists people in their rehab. It is significantly different from and complements the existing range of therapies. Complementary because it works on the same issues, for example as physio re hand function, as speech re communication or voice, as psychology re adjustment and engagement. It shows you can always do more. Music therapy can offer different thing - Social Worker (Montague, 2005, p21).

I find that music therapy is especially useful in patient engagement when they won't engage with anything else. Music therapy can start them on the process and they can then move on to other therapies, especially the long term, angry resentful young men - Occupational Therapist (Montague, 2005, p. 20).

With one patient, the song he wrote really helped me to understand what he was going through - Physiotherapist (Montague, 2005, p. 22).

For one young man I work with, music therapy seemed to be the one thing that got him back up from the depths, from rock bottom. He was 'absent', not willing to participate in anything; it was the one thing he responded to. For another who was suicidal, it became the vehicle for him to express himself, to begin to deal with the trauma, the grief, the pain and then be able to contemplate rehabilitation instead of death - Social Worker (Montague, 2005, p. 22).

Most people would know what they (the music therapists) do, how to refer, how to contact them and who the therapists are. This is very impressive for two part time staff in a large organisation - Senior Manager (Montague, 2005, p. 7).

I would give it equal status with the other therapies of physio, OT, speech and social work - Psychologist (Montague, 2005, p. 25).

It is great to have another professional who understands about voice with the same understanding but from a different angle. The outcomes are better when we work together. We are learning ourselves, becoming more creative, getting motivated - Speech Pathologist (Montague, 2005, p.21).

We have not yet tapped into the full potential of music therapy. I see a real evolution of our understanding of music therapy. We can now see how music therapy works beyond just the social and emotional to the physical as well. We need to be working more closely.i.e. have better communication, set common goals and undertake activities together - Occupational Therapist (Montague, 2005, p. 20).

I have seen music therapy assist in so many ways; engagement, calming, soothing and relaxing, physical dexterity, memory and concentration, breath, saliva and voice control. It can be a vehicle for communication, from the therapist to the patient, from the patient to the outside world, it gives nurses some tools they can use in their work, and it can enhance the efforts of other therapists. It adds quality of life to the most vulnerable - ABI Unit staff member (Montague, 2005, p.24).

Conclusion

The establishment of the Music Therapy Service at RTRC is still very much in its infancy. We have certainly come a long way in the short time that the program has been running. Each of the 6 criteria outlined in the evaluation was met by a number of indicators demonstrating successful implementation and operation of the program. Staff knowledge about music therapy and understanding of the program increased significantly as evidenced by appropriate use of the referral system and collaborative work. Referrals were assessed in a timely manner and a mix of individual and group music therapy sessions offered to patients.

Music therapy has been firmly integrated into the clinical aspects of the running of the hospital however it has yet to be integrated financially in terms of securing recurrent funding. The external evaluation of the program has provided both quantitative and qualitative data demonstrating the positive effect of music therapy on the rehabilitation process. The establishment of this program in a large public rehabilitation facility is a testament to the ongoing development of Australian music therapy practice and research in adult rehabilitation.

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To cite this page:

Tamplin, Jeanette (2006). Development of a Music Therapy Service in an Australian Public Rehabilitation Hospital. *Voices: A World Forum for Music Therapy*. Retrieved July 29, 118, from <http://www.voices.no/mainissues/mi40006000204.html>

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