

Rhythm for Rehabilitation:
Music Therapy as a Part of the Stroke Rehabilitation Team
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Music Therapy (MT): Brief Introduction

Every civilization throughout history has used music to perform a function: to celebrate, mourn, communicate and respond. The first widely known use of organized music as therapy was with military patients during World Wars I and II, when volunteers came to play instruments and sing for the injured-in-combat. When responses to the music were documented with medical significance, professionals considered the ramifications for using music intentionally for therapy. Thus began the profession of music therapy in the mid-1900s.

Music therapy is an evidence-based practice and is largely dependent on research. The research results have been shown to affect areas in motor skills, communication skills, cognitive skills, and socio-emotional skills.

Stroke: Areas of Treatment

Cognition

Just as we recall the alphabet when putting library books in order or remember a song to complete a mathematic equation, stroke survivors can use music to orient themselves to their surroundings or recall a sequence of events. Using *music as a mnemonic device* speeds the process of regaining cognitive, or executive, function and prolongs the results of treatment in this area. Some examples include writing a song about the day and date or singing a song to memorize a sequence of events.

By playing instruments or locating a music source on the neglected side, a music therapist helps to increase the patient's awareness of his or her neglected side. Decreased control of cognitive function may also lead to increased lability and/or agitation. Soothing, preferred music is often called upon in extreme situations to decrease agitation quickly and help the patient perceive a situation accurately.

Motor

Rhythm is the main ingredient for music therapy techniques in this area of treatment. In working on motor control, music therapists use instruments as a target for reaching and weight-bearing exercises. The simple act of hitting a drum, supported by preferred rhythmic music, has shown to increase endurance and strength in motor control exercises. This technique is referred to as *therapeutic instrumental music playing* (TIMP). Weight-shifting transfers to "dance" in music language. A simple waltz rhythm strummed on guitar can guide a patient in weight-shifting in sitting or standing to improve balance and strengthen trunk support. Other trunk-strengthening exercises, referred to as *patterned sensory enhancement* (PSE), use a melody and rhythm to reflect and guide the movement of the patient. A large amount of research has been done in "gait training" with music. A stroke patient may walk unevenly, with or without a walker or cane, and maintain a limp. The music therapist, watching the patient's gait pattern, will create a steady, firm rhythm that matches the pace of the patient. Typically, the patient immediately "entrains" to the rhythm and begins to walk in a normal pattern. This process is called *rhythmic auditory stimulation* (RAS) and, while it has been primarily researched with Parkinson's patients, the technique has shown to be highly effective with stroke patients.

Communication

Speech has a natural rhythm and certain phrases carry a natural intonation and melody. A popular and widely successful music therapy technique for stroke patients with aphasia is *melodic intonation therapy* (MIT), which emphasizes the natural intonation of a phrase to regain communication skills. The music therapist sings the phrase, playing the melody on the piano and patting the rhythm on a table or drum. The patient joins in and together, patient and therapist move from singing to chanting to speaking, all reinforced by rhythm. Though MIT is primarily used for patients with aphasia, the technique has shown to be beneficial with patients who have apraxia or dysarthria. Singing familiar songs as a warm-up to MIT has been beneficial as well. Other techniques, such as *singing*, *speech stimulation* (STIM), *fill-in-the-blank songs*, and *rhythmic speech cueing* are frequently used with patients who have aphasia, dysarthria, or apraxia.

Socio-Emotional

Emotional side effects of stroke vary according to patient. Listening to music with which the patient identifies, songs written by the patient, and creating music through improvisation allow the patient to express and address his or her emotional needs. Family involvement in the process is priceless and aids in coping with the change that has occurred.

Music is a natural social outlet, helping people to identify with each other while at the same time expressing their individuality. Group music therapy is an easy way to continue progress in other treatment areas while integrating a social outlet with others in a similar situation. Group sessions also motivate patients as they encourage each other. Life skills training is frequently an area of treatment used by music therapists. Using mnemonic or concept songs to recall events and a specific sequence enable the patient to increase independence.

Treatment Models

Music therapists can co-treat with other professionals, using music therapy in conjunction with physical, occupational, and speech therapists to maximize treatment. In the interdisciplinary model, music therapists work on a team with other professionals, typically including the patient and family, to create a treatment plan for the patient. Music therapists also work in a trans-disciplinary model, seeing patients separate from other professionals, but consulting with other professionals on treatment techniques so the patient can continue progress in other modalities.

Music Therapy in Each Step to Recovery

Hospitals

The music therapist is a part of the treatment team, can co-treat with other professionals and implement treatment for all areas of need. Patients and their families are also involved in the treatment planning, go through training, and transition to the next stage of treatment.

Out of the Bed

As patients improve and advance in rehabilitation, family members play a different role. Music therapy continues to provide support for patient and family as a part of the rehabilitation team as the patient is able to participate in more group activities for social outlets. Using music in a group setting facilitates social connections and identifying with others in similar situations. As mobility increases, music spurs on the patient who responds automatically to rhythm and increases motor function through various discussed techniques.

Into the Community

Music therapy may be available in a group or individual setting to continue treatment for cognitive, speech/language, physical, emotional, social, and musical goals. Goals also center around “real life”

skills and situations based on the current and projected progress of the patient. Music therapists work in group homes, work programs, and private residences.

Tips & Suggestions: DO try this at home!

You can try some of these techniques whether you have had a stroke or not! Try making up a song to the tune of “Mary Had A Little Lamb” to remember where you put your keys when you get home. If you can recall where you put your keys by singing the song when it’s time to find your keys, you have just benefited from the tool of music as a mnemonic device!

The Carolina Center for Music Therapy, LLC

The Carolina Center for Music Therapy, LLC, seeks to provide services of the highest quality to children and adults with various needs in the Triangle community. Our highly trained staff and research-based services are only the foundation of our practice – we desire to form collaborative and long-lasting relationships with our clients and professionals in the community.

At CCMT, music therapists work with a variety of populations and in many settings, including individuals with stroke and brain injury in group homes, schools, and private residences. After an initial assessment to address potential goals, additional sessions can be scheduled. We offer services in individual or group sessions, once a week. The average cost for an hour-long individual music therapy session is \$55-\$60 per session. Group therapy sessions start at \$25 per session. An initial assessment is \$80. Please contact us today at info@thecarolinacenter.org or (919) 323-0188 for more information or to set up an initial assessment.

Resources

- a. American Music Therapy Association website: www.musictherapy.org
- b. Rhythm, Music and the Brain by Michael Thaut
- c. Professional Journals
 - i. Journal of Music Therapy
 - ii. Music Therapy Perspectives
- d. Music Therapists
 - i. Christina L. Watson, MT-BC
The Carolina Center for Music Therapy, LLC

Neurological Music Therapy Terms

- a. RAS – Rhythmic Auditory Stimulation (gait)
- b. MIT – Melodic Intonation Therapy (speech/language)
- c. PSE – Patterned Sensory Enhancement (coordination)
- d. TIMP – Therapeutic Instrumental Music Playing (motor control, reinforcer)
- e. STIM – Speech Stimulation (speech/language)

For more information contact The Carolina Center for Music Therapy, LLC at info@thecarolinacenter.org or call Angie Hong at (919) 323-0188