

David Putano, HPMT, MT-BC  
Music Therapist – Board Certified  
419.460.4814

## Music Therapy and Dementia

**When a person with dementia experiences favorite music from the past feelings and emotions are elicited that prompt accurate, intact thoughts and remembrances. This stimulates them to experience success, not failure; order, not confusion, ultimately decreasing feelings of depression and anxiety.**

The purpose of this paper is to describe how music therapy can be a useful, enriching and quality of life changing intervention for individuals with dementia and their families. **At times, music therapy terminology or considerations that hospice clinicians often use when caring for patients with dementia include music enrichment, relaxation, and comfort care.**

Music therapy defined: using music to achieve non-musical goals. When the music therapist works with a dementia patient, the goal is not to make beautiful music or to necessarily entertain the individual but instead utilize music to address clinical, non-musical goals. Possible clinical goals might include: alleviating depression or decreasing the patient's perception of anxiety and stress by the utilization of music. If beautiful music is made or if the patient is entertained, those outcomes are secondary to the primary goals of alleviating depression and reducing stress or enriching their daily life through positive reminiscence.

The number of older adults in the United States increases every year, partly due to medical technology (Treas & Longino, 1997). With this area of our population on the rise more cases of dementia are reported every day. According to the Alzheimer's Association, Alzheimer's now affects more than 5 million Americans. For those who suffer from its progression, a number that doubles every five years among seniors according to The National Institute on Aging, music can not only be a pleasant link to the past, but a nourishing connection to the present.

As there are many causes of dementia, the most common is dementia of the Alzheimer's type (DAT), followed by multi-infarct dementia and mixed Alzheimer's disease with multi-infarct dementia (Alzheimer's Disease and Related Disorders Association, 1990). There is no dispute that this population presents serious challenges in their everyday care. Although there is no cure, much can be done to improve their quality of life and ameliorate some of their deficits (Brotons & Koger, (2000). Over the years much evidence and reports by health care professionals and families have suggested that music and music therapy may have a unique effect on people with dementias, more specifically on those with a probable diagnosis of DAT (Cooper, 1991; Lloyd, 1992; Smith, 1992).

From: aplaceformom.com

### Music and the Mind: A Different Kind of Dementia Therapy

The man had not spoken in three or four years. An older man in the late stages of Alzheimer's, he could no longer care for himself and required a high level of assistance in his daily activities of living.

But on one particular day, Concetta Tomaino, DA, a certified music therapist, offered a different kind of dementia therapy - she sang an old Yiddish song to him and some of her other patients. "You could tell by his face that he was watching," recalls Tomaino. From a man in his condition, attention was a lot to ask for. "Whenever I got a chance I played this song to him and sang to him. Within a month of doing this, he was making an attempt to speak, and he eventually started singing the song himself. He also started talking again. He continued talking and lived for many years after that.

A clinical area that is very pertinent to dementia is that of depression and anxiety. Among the general population it is estimated the 25% of adults or 8.6 million people above the age of 65 or older experience depression and anxiety. And of course, individuals (and their families) with dementia are not immune.

One key to music's well-documented positive effects on depression and anxiety is preferred music, and from the story above by Ms. Tomaino, the significance of preferred music is very evident. Through assessment, the music therapist will help the patient (or family) identify music that will elicit positive, euphoric or sedative responses. Or very simply, what music does the patient have the most positive associations? When we can identify music that elicits feelings and emotions of the past, we can stimulate accurate, intact thoughts and emotions that the song (experience) carries with it, allowing the individual to observe success, not failure; order, not confusion, ultimately decreasing feelings of depression and anxiety.

An often overlooked aspect of music is tempo or speed (of the music). When music is too fast, people with cognitive disorders and/or hearing loss experience anxiety and feelings of not being able to "keep up." This is common even when the music is familiar. When the music is too fast, people have difficulty with singing and/or comprehension. This feeling of inadequacy is stressful and can add to depression. Particularly in a (music) therapy setting we want to encourage and support success not failure.

In my therapy sessions, providing live, preferred music allows me to constantly watch for individuals reactions as they try to participate. If I know they are familiar

with and like a specific song I go as slow as I need to which allows them to comfortably participate, i.e., sing and/or move with the music and enjoy the experience. With that all in place the positive reminiscence and emotions can become part of their music experience. Then, even those with cognitive disorders and/or hearing loss can experience success with music.

Because people with dementia are usually 50 yrs or older hearing loss is common. Live, familiar music presented slow enough to allow for good comprehension allows those with hearing loss, who normally have difficulty engaging in music, to be able to sing with enthusiasm. This is possible because they are so familiar with the song (from their past) it triggers their positive memory thus allowing the words “roll off their tongue,” even though they can't hear the song very well. The physical participation and accurate anticipation of the words actually gives them the sensation of hearing better because they are successfully engaging in the song.

### **Music as a Primary Cognitive Experience**

What this means is that when we experience music we cannot control the feelings and emotions it (music) brings about. All sensory experiences are like this, i.e., seeing, touching, tasting, smelling and hearing. As an example, if we are in a mall and a fragrance of perfume gets our attention and that perfume is one that our grandmother wore, we will think about our grandmother whether we want to think of her or not. We cannot control this. This is what is meant by music being a primary cognitive experience. Similarly, when we hear a piece of music that reminds us of Christmas, whether we want to think of Christmas or not, we will. Through assessment the music therapist tries to identify music (preferred music) that can be utilized for the purpose of eliciting positive, conditioned responses to help as a positive diversion from stress, anxiety and pain.

How music affects us is not mystical as once believed. Critchley and Henson (1977) as cited in Tsao et al., 1991 conclude there are at least three intrapersonal communication processes implied in the music health relationship.

First, because of it's nonverbal characteristic, music can filter through the auditory cortex to the center of the limbic system which is the center of emotional processing. Second, music can reinforce the corpus callosum to stimulate memory response. Third, music can be used to stimulate endorphins that create a positive kind of emotional arousal- a feeling of being in love.

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## **The Brain and Music**

Just how the brain and body process music remains mysterious. Concetta Tomaino, DA, a certified music therapist, Tomaino, and director of the Institute for Music and Neurologic Function at Beth Abraham Family of Health Services in New York, says we at least know music is processed on many levels at once.

“Why it’s so positive is that we process music with almost every part of our brain,” she says. “Music that has personal significance to someone or is connected with historical events is a strong stimulus to engage responses in people, even in late stages of dementia. Even if they’re not necessarily able to tell you what the song is, they are able to be moved and feel the associations.”

Tomaino and other researchers have found a strong connection between the human brain’s auditory cortex and its limbic system, where emotions are processed. “This biological link makes it possible for sound to be processed almost immediately by the areas of the brain that are associated with long-term memory and the emotions,” she says.

The Institute for Music and Neurologic Function was founded on Tomaino’s observations, together with those of noted neurologist and colleague Dr. Oliver Sacks and others, that many people with neurological damage learned to move better, remember more, and even regain speech through listening to and playing music. In numerous clinical studies of older adults with Alzheimer’s and other forms of dementia, familiar and likable music, not medication, has reduced depression; lessened agitation increased sociability, movement, and cognitive ability; and decreased problem behaviors.

In a small 1986 study, only music elicited a physical response from those with final-stage Alzheimer’s as measured in heart rate, breathing, eye blinking, and mouth movement. A later study that used music in palliative care found the combination of language, which is processed by one part of the brain, and music, processed by many parts of the brain, increases the chance of activating neurological pathways that language alone cannot.

“There are certain areas of the brain that are still relatively intact even as a progressive disease like Alzheimer’s takes effect,” says Suzanne Hanser, PhD, department chair of music therapy at Berklee College of Music in Boston and former program director of San Francisco’s Alzheimer’s Association. “In particular, the limbic system and specifically the

hippocampus, which retains long-term memory, has been proven to retain emotional impact. Music

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triggers these long-term memories. So we see people who have not spoken in years begin to sing songs that they knew in their early teens and early adulthood.”

Hanser says that when we actively make music, as opposed to passively listening to it, we activate another part of the brain that controls balance and movement—the cerebellum—in addition to cognitive and limbic areas. “Music therapists may begin with passive listening but soon we engage the person so there’s more parts of the body involved,” she says.

Another area that researchers look at is music’s audioanalgesic effect. This involves endorphin production through a music induced “thrill” response. Goldstein, (1980) at the Stanford Addiction Research Center, used preferred music to stimulate “musical thrills.” Besides the aspect of the study that actually looked at endorphin release, it should be noted that when Goldstein asked 250 research subjects what gave them the greatest thrill, 96% of them mentioned music.

To summarize: Preferred music (played slow enough for comprehension) is the key with individuals suffering with dementia. When we can engage the individual, first in passive music experiences, and then (hopefully) in active music experiences, past feelings and emotions are elicited that prompt accurate, intact thoughts and remembrances. This stimulates them to experience success, not failure; order, not confusion, ultimately decreasing feelings of depression and anxiety. Also, when engaging in preferred music, physiologic stimulation (endorphin release) occurs. All of which adds to their quality of life.

### **Possible Music Therapy Goals**

By utilizing live, preferred music the patient will:

- generally verbalize the experiencing of pleasure, or more specifically speak of stress level having been decreased...
- display physical signs of decreased stress levels and positive engagement such as singing, brighter affect, clapping or dancing...
- spontaneous talk about non-stressful topics...
- positive reminiscence...
- display of emotion (related to the music)...

---be able to relax enough to sleep...

## **Music Therapy Procedure**

I) Music therapy assessment

II) When possible, music therapist will work with the patient and family prior to the patient experiencing pain, providing music therapy, to build therapeutic rapport, to accurately identify and implement beneficial music repertoire, to develop positive associations and conditioned responses to the live music sessions and to expose family to the goals and benefits of music therapy.

III) During general music therapy visits as well as during stressful/anxious times the music therapist will implement live music for the aforementioned goals. Other general considerations include the use music therapy for alternative focus, positive diversion, stress management, family togetherness, spiritual and emotional support as well as to support comfort and relaxation.

IV) Group/family processing of music therapy experience is sometimes called for. Often, music stimulates family interaction including singing as well as many emotional responses from the patient, family members and even staff. The music therapist will discuss these responses and provide direction and support.

## SENSORY IMPAIRMENTS

**Hearing impairment:** for those with hearing impairments various music therapy techniques can be implemented. 1) during live music, music therapist can gently tap foot on hospital bed wheel or rail to accentuate the beat, tempo and energy of the music 2) during live music, music therapist has amplified hearing aid headphones that the client can wear if they desire and are comfortable 3) during live music, music therapist can place clients hand on the guitar body or on the music therapist's back to experience the vibrations of the music (guitar) and singing (chest cavity) \*\*\* only when appropriate and when client agrees 4) during live music, music therapist can offer client the use of music therapy songbook with large print.

**Visual impairment:** for those with visual impairments various music therapy techniques can be implemented. 1) during live music, music therapist can support and encourage client to sing - to more readily engage in the live music 2) during

live music, music therapist can offer client the use of various percussion instruments to again, more readily engage in the live music experience.

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**Speech impairment or aphasia:** for those with speech impairments various music therapy techniques can be implemented. 1) during live music, music therapist can support purposeful singing of preferred music 2) music therapist, through assessment can determine the client's cognitive comprehension speed (CCS) to determine how slow (or fast) the music must be presented to let the client successfully engage.

From: "Aphasia, Speech and Language Therapy" by Christine Cadena (2007)

Because aphasia is specifically a disorder that involves a loss of language recognition and retrieval, music therapy can provide a unique option in treatment. Using music and songs that are familiar to the elderly patient, areas of the brain that store language retrieval and language recognition capabilities, can be strengthened. Because many songs utilize short phrases, the use of familiar lyrics can provide for a language recognition exercise in music therapy programs.



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