



*Julie Guy, MT-BC & Angela Neve, MT-BC*  
PO BOX 710772, San Diego, CA 92171-0772  
info@themusictherapycenter.com  
1.877.620.7688 fax & VM

## **Music Therapy, Alzheimer's Disease & Dementia Fact Sheet**

### **Definition:**

Alzheimer's disease is a progressive brain disorder that slowly destroys a person's memory and ability to learn, reason, make judgments, communicate and carry out daily activities. As Alzheimer's progresses, individuals may also experience changes in personality and behavior, such as anxiety, suspiciousness or agitation, as well as delusions or hallucinations. Alzheimer's disease advances at widely different rates. The duration of the illness may often vary from three to 20 years. The areas of the brain that control memory and thinking skills are affected first, but as the disease progresses, cells die in other regions of the brain. Eventually, the person with Alzheimer's will need complete care.

Alzheimer's is the leading cause of dementia, a group of conditions that all gradually destroy brain cells and lead to progressive decline in mental function. Vascular dementia, another common form, results from reduced blood flow to the brain's nerve cells. In some cases, Alzheimer's disease and vascular dementia can occur together in a condition called "mixed dementia." Other causes of dementia include frontotemporal dementia, dementia with Lewy bodies, Creutzfeldt-Jakob disease and Parkinson's disease.

### **Incidence:**

Approximately 4.5 million Americans have Alzheimer's disease. Since 1980, the number of people with Alzheimer's has almost doubled and by the year 2050, it is estimated that the occurrence of Alzheimer's could range from 11-16 million. One in 10 Americans have a family member with Alzheimer's and 1 in 3 know of someone with the disease.

### **Characteristics and Need Areas:**

The ability of each person with Alzheimer's disease or dementia ranges based on the stage of the illness. Those in stage 1 have no cognitive impairment and individuals with late-stage dementia (stage 7) lose ability to talk, walk and move.



*Glenn Jackson has Alzheimer's disease and enjoys listening to music from the 30's to bring back memories.*

- **COGNITIVE:** Individuals may display a variety of cognitive problems including memory lapses (forgetting location of common objects), inability to retain information, and losing or misplacing valuable objects. Declines in ability to plan and organize and to do mathematic calculations are common. Decreased knowledge in current or recent events, reduced memory of personal history, confusion about the date or season, needing assistance with dressing and day-to-day activities, disruption of sleep/awake cycle, and wandering/becoming lost are other resulting cognitive problems.
- **SPEECH/COMMUNICATION:** They may forget words, and names of friends and family. In the late stages of the disease, their speech becomes unrecognizable (though they may still utter phrases and words.)
- **MOTOR SKILLS:** In late stages of the disease, people with Alzheimer's lose the ability to walk, sit up, lift their head or smile. Eventually reflexes become abnormal and muscles become rigid.
- **SOCIAL:** People with Alzheimer's disease or dementia show decreased ability to remember names, and may withdraw socially due to their speech and cognitive impairments. In addition, both the individual with dementia/Alzheimer's and the caregivers/family members may suffer from depression because of declining cognitive abilities and decreased emotional intimacy.

## **How can music therapy address the need areas for an individual with Alzheimer's disease?**

**SPEECH:** Music therapy is effective in slowing the regression of speech and language skills. Rhythm-based exercises paired with words can enhance speech intelligibility. Because music is processed in both hemispheres of the brain, music may be used as a tool to access language in ways that verbal language cannot. As dementia or Alzheimer's disease progresses and the ability to speak is lost, many people are still able to sing favorite songs or hum.

**COGNITIVE:** Music can be used to maintain memory organization and attention processing. Long-term memory holds our rehearsed music. It is processed in the emotional part of the brain, the amygdala. This is where you remember music played at your wedding, dating years, and that first kiss. In this way, music acts as a bridge, allowing individuals to tap into stored musical memories that are not damaged by disease. A technique called *Reality Orientation* can help individuals remember the date, weather, or season through song. *Sensory Training*, another technique, helps to restore a person's contact with the environment through the senses (visual, auditory, tactile, taste and smell). Multi-sensory experiences (music and visuals) can help stimulate memories and conversations. For instance, an individual may sing holiday songs while waving a fragrant evergreen branch in time to the music.

### **GOAL EXAMPLE for COGNITIVE SKILLS**

**By (date), given melodic cueing and a visual poster, Josephine will demonstrate cognitive skills by singing the month, day of the week, and year for 75% of opportunities with minimal prompting.**

*Baseline: Josephine is easily confused and disoriented and is not aware of the date.*

**MOTOR SKILLS:** Dancing, exercising and music movement activities can help the body to coordinate and recover body functions. For instance, using instruments (such as drums) can be a motivating way to improve purposeful hand use and range of motion for the arms. Co-treatment with an occupational or physical therapist also may enhance the effectiveness of music therapy strategies.

**SOCIAL:** Music therapy applications are important to the quality of life for family caregivers and their care receivers. It can enhance social interaction and alleviate feelings of isolation and loneliness. Spouses can interact meaningfully together using music as the medium. Studies show that these interactions are not limited to the music therapy setting but can be used successfully elsewhere. Group activities can promote positive, successful experiences with music while interacting with others. Successful experiences lead to increased self-esteem and feelings of satisfaction. Participating in music therapy experiences can also help these individuals sleep better by raising their serum melatonin levels (which influence how well we sleep).

## **RELATED RESEARCH:**

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## **NATIONAL ORGANIZATIONS**

### **American Music Therapy Association (AMTA)**

8455 Colesville Road, Suite 1000  
Silver Spring, Maryland 20910, USA  
Phone: (301) 589-3300  
Fax: (301) 589-5175  
Email: [info@musictherapy.org](mailto:info@musictherapy.org)  
[www.musictherapy.org](http://www.musictherapy.org)

### **Alzheimer's Association**

National Office  
225 N. Michigan Ave., Fl. 17, Chicago, IL 60601  
24/7 Nationwide Contact Center: 1-800-272-3900  
Fax: 312-335-1110  
Email: [info@alz.org](mailto:info@alz.org)  
[www.alz.org](http://www.alz.org)