

## Music Therapy Enhancing Cognition

While researchers from around the world work to find new ways to treat Alzheimer's and prevent the on-set of dementia, families and people affected by different stages of dementia must make good use of all available tools to address the cognitive and emotional symptoms of the condition. One important such tool is music.

Many Alzheimer's patients can remember and sing songs even in advanced stages, long after they've stopped recognizing names and faces. Dementia care homes often use music as recreation, since it brings patients pleasure. But beyond the entertainment value, there's growing evidence that listening to music can also help stimulate seemingly lost memories and even help maintain some cognitive functioning.

World renowned Rebecca Center for Music Therapy in New York promotes the use of music therapy to help stimulate communication and memory skills. Its founder, John Carpenter, a licensed, board-certified music therapist, believes that listening to live music and being involved in live music-making experiences empowers clients to emerge from the isolation imposed by Alzheimer's disease and dementia. Some of the benefits he cites include:

- memory recall;
- positive changes in moods and emotional states;
- a sense of control over life;
- non-pharmacological management of pain and discomfort;
- stimulation that promotes interest even when other ap-



*The brain that engages in music is changed by engaging in music.*  
- Dr. Michael Thaut

proaches are ineffective;

- promotes rhythmic, continuous movement and vocal fluency;
- opportunities to interact socially with others.

“Basically”, Carpenete says, “music is used to maintain or increase levels of physical, mental, social, and emotional functioning”. Music used as a sensory and intellectual stimulation can help maintain quality of life or even improve it.

### How does it work?

For centuries, music has been known to calm people down and provide relief from stress and tension. Neuroscientists, now equipped with brain scanning

technology, have a renewed interest in finding how music affects our neural circuits.

Researchers in Finland using magnetic resonance imaging (fMRI) found that music listening recruits not only the auditory areas of the brain, but also employs large-scale neural networks. For instance, they discovered that the processing of musical pulse recruits motor areas in the brain, supporting the idea that music and movement are closely intertwined. Limbic areas of the brain, known to be associated with emotions, were found to be involved in rhythm and tonality processing. Processing of timbre was associated with activations in the so-called default mode network,

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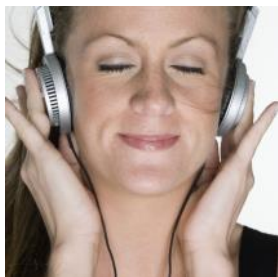
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*Continued from page 1:*

which is assumed to be associated with mind-wandering and creativity.

Music also engages areas of the brain involved with paying attention, making predictions and updating events in memory. Findings suggest that music can help the brain organize incoming information.

Recent research also showed that listening to music releases dopamine (a neurotransmitter) in the brain sending pleasure signals to the rest of the body.

### Incorporating Music in your Treatment Plan

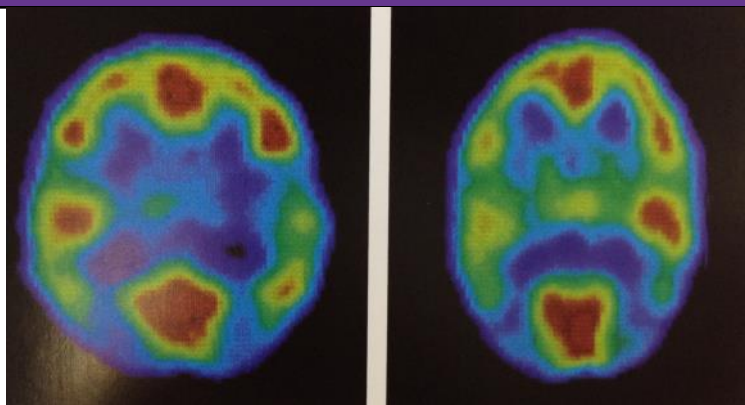
For people in the early stages of dementia, music therapy can help maintain cognitive levels and enhance overall brain functioning.

Day care centers and homes specialized in dementia care routinely incorporate music therapy programs in their schedules, as a way to keep residents engaged and stimulated. These programs are often made available to the community at large. Families caring for their loved ones at home should check their local resources for opportunities to attend music therapy programs.

In home care can be also enhanced by the use of music tools (*see Tips panel*). A personalized music playlist in an Ipod can be an effective non-pharmacological way to promote well-being and enhance quality of life.

If you need help setting a playlist for your loved one, there is a non-profit organization Music & Memory ([musicandmemory.org](http://musicandmemory.org)) that can help set one up.

Written by Care Consultant Luciana Cramer for the Alzheimer's Association. Sources: Aging Well - Music Therapy in Dementia Treatment; A Key for Unlocking Memories, by Melinda Beck for the Wall Street Journal; Recollection Through Sound By Juliann Schaeffer; Advancing Care, Nov.2011, Alzheimer's Association NYC Chapter; News-medical.net.



PET-scans showing brain activity in speech (left) and in listening to music (right).

💡 When verbal communications fail, using familiar songs can help soothe and take the edge of difficult moments.

💡 Playing soft music can help creating a calm environment and ease sun-downers.

💡 Try playing soft music in the background during bathing to create a calming and relaxing atmosphere.

💡 Playing animated, happy songs in the morning can help with getting your loved one started.

💡 Singing a familiar song together can offer a welcome distraction and help a person "snap-out" of a repetitive action or behavior.

💡 Think ahead: make playlists of different kinds of songs for different kinds of mood.

💡 There are many apps available for music learning and sing-along. Sing-Fit is an excellent app designed specifically for people with memory loss.

💡 Make sure that the songs you select do not bring up bad memories and are not connected to sad events of the past.

### What makes a Music Therapist?

A degree in music therapy requires proficiency in guitar, piano, voice, music theory, music history, reading music, improvisation, as well as varying levels of skill in assessment, documentation, and other counseling and health care skills depending on the focus of the particular university's program. To become board certified, a music therapist must complete a music therapy degree from an accredited AMTA program at a college or university, successfully complete a music therapy internship, and pass the Board Certification Examination in Music Therapy. The credential, Music Therapist-Board Certified (MT-BC) is granted by The Certification Board for Music Therapists (CBMT), upon successful passage of the Board Certification Examination. A music therapist may also hold the designations CMT (Certified Music Therapist), ACMT (Advanced Certified Music Therapist), or RMT (Registered Music Therapist). For listings on Certified Music Therapists in your area, please contact your local office of the Alzheimer's Association.



### Helpful Resources:

**Book: Music Therapy in Dementia Care**, David Aldridge (Editor)

**Book: Connecting Through Music with People with Dementia: A Guide for Caregivers**, Robin Rio (Author)

**Ipod help: MusicandMemory.org** - For information, contact Dan Cohen: 917-923-5636 or [dcohen@musicandmemory.org](mailto:dcohen@musicandmemory.org)

**CFIT - Cognitive Fitness & Innovative Therapies**, a Program of Santa Barbara Cottage Hospital, [SBCFIT.org](http://SBCFIT.org)

**SingFit** - For smart phones and tablets, this **app** provides a voice coach to guide the sing-along music.

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