

Chapter 21

Persons with Alzheimer's Disease and Other Dementias

Laurel Young

This chapter provides music therapists with fundamental information on how to work with persons who have *mild* to *moderate* and *severe* dementia (stages defined below). This work may take place in long-term care, hospital, or community contexts (e.g., day programs, hospice, or at the client's home). The reader should note that Chapter 20 (Abbott) also contains some methods that may be modified for this clinical population.

DIAGNOSTIC INFORMATION

Dementia is not a disease but a term used to indicate a range of symptoms associated with a decline in memory and other cognitive skills which in turn affects one's ability to perform the activities of daily living (ADL) (Alzheimer's Association, 2012, July 31.). It is caused by irreversible physiological changes in the brain that vary according to the type of disorder. When brain cells die or are not functioning properly, cognition, behavior, and emotions can be affected. Alzheimer's disease (AD) is the most common form of dementia and accounts for 60% to 80% of cases. It is the sixth leading cause of death in the United States and the fifth leading cause of death in Americans over the age of 65 (Alzheimer's Association, 2012; Miniño, Murphy, Xu, & Kochanek, 2011). Due to an increase in the number of people over the age of 65, the annual incidence of AD and other dementias is projected to double by 2050 (from 5.2 million to 11–16 million people) unless a way is found to prevent, slow, or stop the disease (Hebert, Beckett, Scherr, & Evans, 2001). Other disorders commonly associated with dementia include vascular dementia, dementia with Lewy bodies (DLB), frontotemporal lobar degeneration (FTLD), Creutzfeldt-Jakob disease, Wernicke-Korsakoff Syndrome, Huntington's disease, Parkinson's disease, normal pressure hydrocephalus, and mixed dementia (a combination of AD and vascular dementia). Researchers do not know how many people diagnosed with dementia actually have mixed dementia, but autopsy studies indicate that the condition may be more common than previously realized. Additionally, the combination of these two diseases may have a greater impact on the brain than either one alone (Alzheimer's Association, 2012, August 1).

There is no one definitive test to determine if someone has dementia. The 4th edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR; American Psychiatric Association, 2000) contains detailed diagnostic criteria for a variety of major and mild neurocognitive disorders, including AD. The DSM-5 contains some revisions to these criteria. (It is beyond the scope of this chapter to review all of the diagnostic criteria contained in the DSM-IV-TR and DSM-5. Please consult these publications for additional information; also see American Psychiatric Association, 2012, July 1.) Doctors often make a diagnosis based on medical history, family history, physical and neurologic examinations, and laboratory tests, as well as on the characteristic changes in thinking, daily functioning, and behavior

that are associated with each disorder (Alzheimer's Association, 2012). Commonly used brief cognitive screening instruments include the Mini-Mental State Examination (MMSE), the Mini-Cog, and the Memory Impairment Screen (MIS) (Holsinger et al., 2012). Some conditions (e.g., depression, thyroid problems, etc.) have symptoms that mimic dementia but, unlike as with dementia, these can be reversed with treatment. Although doctors can diagnose irreversible dementia with a high level of certainty, it can be difficult to determine the exact type, as symptoms of different disorders often overlap. In some cases, a doctor may simply apply a label of *dementia* and not specify a particular type. According to the Alzheimer's Association (2012, based on DSM-IV-TR criteria), to be considered dementia, symptoms must include a decline in memory and in at least one of the following abilities: (a) ability to generate coherent speech or understand spoken or written language, (b) ability to recognize or identify objects, assuming intact sensory function; (c) ability to execute motor activities, assuming intact motor abilities and sensory function, and comprehension of the required task; and (d) ability to think abstractly, make sound judgments, and plan and carry out complex tasks (p. 132).

Currently, there is no cure for Alzheimer's disease or most other dementias, and no proven treatment that significantly slows or stops the progression of these diseases. There are pharmacological treatments that may temporarily improve some symptoms, but these must be used with caution as elderly people often have a heightened sensitivity to the effects of drugs (American Psychiatric Association, 2010). Ultimately, persons with dementia require individualized and multimodal treatment plans that change over time to suit their needs as the disease progresses (American Psychiatric Association, 2010; Alzheimer's Association, 2012).

NEEDS AND RESOURCES

General Characteristics

As the majority of persons with AD or other dementias are over the age of 65 (Alzheimer's Association, 2012), they will experience many of the typical aging processes outlined by Abbott in Chapter 20. However, persons with AD and other dementias also “display a wide range of cognitive impairments and neuropsychiatric symptoms that can cause significant stress to themselves and caregivers” (American Psychiatric Association, 2010, p. 11). Cognitive symptoms include impairments in memory, executive function, language, judgment, and spatial abilities. Neuropsychiatric symptoms may include depression, suicidal ideation or behavior, hallucinations, delusions, agitation, aggressive behavior, disinhibition, sexually inappropriate behavior, anxiety, apathy, wandering, social withdrawal, and disturbances of appetite and sleep. Some individuals experience a peak period of agitation, referred to as *sundowning*, as the evening hours approach (American Psychiatric Association, 2010). Although cognitive decline is generally not reversible, neuropsychiatric symptoms can often be improved with treatment, including music therapy intervention.

Many dementias are progressive, meaning that symptoms gradually worsen over time. Studies indicate that persons over 65 have a mean survival rate of four to eight years after diagnosis, but some can live as long as 20 years (Brookmeyer, Corrada, Curriero, & Kawas, 2002; Ganguli, Dodge, Shen, Pandav, & DeKosky, 2005; Helzner et al., 2008; Larson et al., 2004; Xie, Brayne, & Matthews, 2008). Additionally, more of these years are generally spent in the most severe stage of the disease (Arrighi, Neumann, Lieberburg, & Townsend, 2010). Although the scientific validity of staging criteria has been called into question (American Psychiatric Association, 2010; Olde Rikkert et al., 2011), it is helpful to delineate general stages of dementia so that the rationale for particular music therapy methods and adaptations can be understood and applied in a manner that best suits the needs of each client. The American Psychiatric Practice Guideline (American Psychiatric Association, 2010) also notes that “whatever the intervention, it

is critical to match the level of demand on the patient with his or her current capacity, avoiding both infantilization and frustration” (p. 19). The Clinical Dementia Rating Scale (CDR) is commonly used to stage the severity of dementia (Morris, 1993) and is currently the best-evidenced scale (Olde Rikkert et al., 2011). Stages of dementia presented in this chapter are overarching summaries of stages contained in the CDR. For more information, see <http://alzheimer.wustl.edu/cdr/downloadselectionpage.htm>.

Persons with *questionable dementia* have slight but consistent memory problems and may exhibit mild functional impairment. Symptoms are subtle and are often consistent with those of normal aging (see Chapter 20). Persons with *mild* dementia have moderate memory loss, especially for recent events, and have difficulty with daily activities such as balancing a checkbook or preparing a complex meal. They may experience difficulty in functioning independently at social events. Persons with *moderate* dementia experience more profound memory loss and retain only highly learned material. They are disoriented with respect to time and place, lack judgment, and have difficulty handling problems. They have little or no ability to function independently. Persons with *severe* dementia are not oriented with respect to time or place and require total assistance with personal care. However, research indicates that some measurable cognitive abilities remain (Auer, Sclan, Yaffee, & Reisberg, 1994). In the *terminal* phase, individuals become bed-bound, require constant care, and are susceptible to accidents and infectious diseases that may prove fatal (American Psychiatric Association, 2010).

After reviewing the above characteristics, one may feel that the prognosis of persons diagnosed with dementia is rather bleak and hopeless. However, it is crucial for health care providers, caregivers, and loved ones to understand that aspects of one’s essential character, of personality and personhood, of self, survive—along with certain, almost indestructible forms of memory—even in very advanced dementia. It is as if identity has such a robust, widespread neural basis, as if personal style is so deeply engrained in the nervous system, that it is never wholly lost (Sacks, 2007, p. 336).

This means that we must do more than simply control or treat the *textbook* symptoms of dementia. As a society, we have a moral obligation to support the unique identity that still exists within each person and help millions of people (who may include our friends, neighbors, community leaders, and loved ones) to maintain their dignity and have a reasonably good quality of life. Music therapy is an essential part of this mission.

Musical Characteristics

Music therapists work under the premise that all persons, regardless of musical experience or background, have a fundamental ability to perceive, enjoy, and/or respond to music. An exception to this may be persons who have neurological issues that affect musical functioning, such as congenital amusia. Persons with this condition have extreme difficulties appreciating, perceiving, and memorizing music. This is possibly due to a deficit in fine-grained pitch discrimination that prevents the normal development of neural networks that ascribe musical function to pitch (Peretz & Hyde, 2003). However, areas of musical functioning are very often preserved in persons with dementia and, in fact, musical perception, sensibility, emotion, and memory can survive and may even be heightened long after other forms of memory have disappeared (Cuddy et al., 2012; Gagnon, Gosselin, Provencher, & Bier, 2012; Sacks, 2007). The ability to play a musical instrument (procedural musical memory) is often spared in persons with AD (Baird & Samson, 2009; Beatty et al., 1999). Studies have shown that new musical learning can occur in both musicians (Crystal, Grober, & Masur, 1989; Fornazzari et al., 2006) and nonmusicians (Cevasco & Grant, 2006; Prickett & Moore, 1991) who have dementia. All of these findings support the hypothesis that the brain has a memory system for music that is wholly or partially unaffected by most dementias and that this system may be functionally and physiologically distinct from other domains such as verbal and visual memory (Peretz, 1996; Peretz & Coltheart, 2003; York, 1994). Assessing musical memory and other

musical functions in persons with dementia may provide insight into preserved cognitive skills that can be used to design therapeutic interventions that target both musical and nonmusical domains of functioning (see the section below on assessment). As noted by neurologist and author Oliver Sacks, "music is no luxury [to persons with dementia], but a necessity" (2007, p. 347). Music therapists are in a unique position to provide theoretically informed and skillfully designed music programs and interventions that address the complex needs of persons with dementia.

MULTICULTURAL CONSIDERATIONS

In the present chapter, the term *multicultural* is being defined to include significant reference groups such as those related to race, ethnicity, religion, sexual orientation, gender, age, disability, and socioeconomic status (Sue & Sue, 2003). All music therapists, regardless of the clinical population, must develop appropriate, relevant, and sensitive intervention strategies that take a wide range of multicultural issues into account. Moreno (1988) stressed the need for music therapists to not only have a basic working knowledge of world music genres, but also gain understanding of the cultural implications of clients' musical traditions. Unfortunately, very little has been written to address multicultural considerations that are specific to music therapy intervention with clients who have dementia. The following paragraphs contain a brief overview on this topic.

As outlined by Abbott in Chapter 20, it is essential for music therapists to use music in a way that respects individuals' cultural affiliations as well as the cultural norms of particular contexts. However, it may often be the case that an individual with dementia is unable to verbally articulate his musical preferences and/or cultural practices. In these situations, the music therapist should use all available means to find out as much as she can about a client's cultural background, personal history, and personal music preferences before engaging that client in music experiences. This may be done by speaking to family members or friends, reviewing information contained in the client's chart, speaking to relevant health professionals (e.g., primary nurse, family doctor, social worker, etc.), or, when possible, noting the potential cultural significance of personal objects displayed in the client's personal living space. If cultural information is limited, it may be best for the music therapist to begin by using improvised music or original compositions to assess a potential client's responses to music in general. In this way, the music therapist is less likely to use music that inadvertently disrespects a client's cultural norms or use music that may elicit an abreactive response (e.g., when music triggers memories of a past trauma such as war).

It may also be necessary for music therapists to educate professional and volunteer caregivers about cultural issues related to music. The current author has observed occasions when well-meaning persons were singing hymns or Christmas carols to persons with dementia who were not of the Christian faith. Other instances involved facility staff using music (live or recorded) to comfort or stimulate clients during times that contradicted these individuals' cultural/spiritual traditions. For example, there are designated holy days when persons who adhere to particular Jewish traditions are prohibited from playing or listening to music. In situations observed by the current author, the individuals with dementia were unable to articulate their beliefs or preferences and were most likely not oriented to time and place. Furthermore, some of these individuals exhibited *positive* responses to the music (smiling, clapping, singing along, etc.), which further reinforced those who were providing the music. However, these *positive* responses were most likely a reaction to the music stimulus in and of itself, and these individuals were unable to consciously comprehend the cultural content or implications of the music. It is essential to consider what the individual with dementia would want if he were able to make an informed choice. Family members may also become quite upset if they discover that their loved one is participating in activities that contradict his cultural traditions or religious beliefs.

In addition to musical considerations, a multicultural approach to music therapy encompasses a vast array of cultural issues (Young, 2009). When working with clients who have dementia, music therapists must also consider the following:

- 1) *Race and ethnicity.* As ethnic diversity increases in the general population, so too will it increase in the population of persons diagnosed with dementia. Cultural background may influence the ways in which symptoms present in persons with dementia as well as the ways in which their families respond to and interpret these symptoms (American Psychiatric Association, 2010). In contexts where persons with dementia interact, individuals may exhibit disrespectful behavior toward one another. These behaviors may be an expression of individuals' belief systems, but it may also be the case that socially inappropriate behaviors are occurring due to physiological changes in the brain that affect personality. In either case, reasoning with these individuals is usually not effective as they are unable to process and/or retain the information. The music therapist must redirect these behaviors or find ways to prevent them from occurring in the first place. Programs and interventions must be designed in ways that embrace and respect the values and needs of persons from all ethnic backgrounds. Music therapists also need to become aware of their own values and assumptions and understand how these may affect their work with culturally different clients.
- 2) *Needs of different age cohorts.* Although the vast majority of persons with dementia are over the age of 65, they do not all belong to one single age cohort. As older people often respond positively to the popular music of their youth (Cohen, Bailey, & Nilsson, 2002), music therapists must consider the musical preferences (and other relevant historical aspects) of several generations—not just one or two. Additionally, the younger-onset population (under the age of 65) is growing and is often associated with a more rapid rate of decline (Alzheimer's Association, 2012; Swearer, O'Donnell, Ingram, & Drachman, 1996). Programs and interventions must be designed in ways that recognize the life experiences and needs of various age cohorts.
- 3) *Gender-specific needs.* More women than men have dementia, which is most likely due to the fact that on average, women live longer than men (Alzheimer's Association, 2012). This, in addition to the fact that significantly more music therapists (and frontline caregivers overall) in North America are women (American Music Therapy Association, 2012; Centers for Disease Control and Prevention, 2012, October 1), suggests the possibility of unintentional gender bias when it comes to dementia care. Programs and interventions must be designed in ways that meet the gender-specific interests and needs of both men and women.
- 4) *Sexual orientation.* Lesbian, gay, and bisexual (LGB) people with dementia face many unique challenges. They are more likely than heterosexual people to be single and less likely to have children and receive regular family support (Alzheimer's Society, 2013, March 31). They may be fearful due to discrimination experienced in the past and may even unintentionally *out* themselves, as sexuality can be more overtly expressed in *all* persons with dementia due to reduced inhibition (Alzheimer's Society, 2013, March 31). Programs and interventions must be designed in ways that promote a nonjudgmental environment where all individuals feel a sense of safety, acceptance, and respect.
- 5) *Social class.* People with fewer years of education appear to be at higher risk for developing dementia than those with more years of education. One theory proposes that more educated individuals have a cognitive reserve that enables them to compensate for changes in the brain or that persons in lower socioeconomic groups are at increased risk

for disease in general and have less access to medical care (American Psychiatric Association, 2010). Programs and interventions must be designed in ways that recognize the life experiences and needs of persons from different socioeconomic backgrounds.

CONTEXTUAL CONSIDERATIONS

Approaches to treatment are influenced by context—as certain issues are unique to particular care settings (American Psychiatric Association, 2010). Therefore, not all of the music therapy interventions presented in this chapter will be appropriate for all contexts. Additionally, the level of care or types of interventions used may change over time as persons with dementia often move from one level of care (or location) to another during the course of their disease.

Approximately two-thirds of persons with dementia live at home and receive care on an outpatient basis—often in conjunction with family support (American Psychiatric Association, 2010). Although exact numbers are not known, it is estimated that approximately 800,000 (15.4% of 5.4 million) Americans with dementia live alone in the community. Although these persons are most often in the early stages of dementia, these individuals are at increased risk in terms of health and safety issues (Alzheimer's Association, 2012).

Music therapists who see clients in their homes may focus on providing positive stimulation and/or emotional support, or on alleviating a specific problem (e.g., the use of music to promote cooperation during personal care). They may engage caregivers in music experiences with their loved ones (see examples throughout this chapter) or, conversely, this time may provide caregivers with a short break. End-of-life care for persons with dementia may also happen in the home, and this often involves unique stressors (Patrick & Avins, 2005).

Persons with dementia who live at home may attend day programs designed to provide social stimulation in a safe environment. These programs may also be a source of much-needed respite for caregivers, and sometimes they also offer them various kinds of psychoeducational support. Because overstimulation can be an issue for some individuals with dementia, social activities must be thoughtfully designed and implemented with care. Problems may also arise when persons with different levels of dementia are expected to participate together in the same activities (American Psychiatric Association, 2010). Some day programs separate attendees into different groups according to level of functioning (Chavin, 1991). It is the current author's experience, however, that persons of varying levels of functioning can successfully participate in certain types of group music therapy intervention or skillfully executed *sing-along*-type programs. This may be due (at least in part) to the fact that some if not all of the musical functions of the brain remain intact throughout the various stages of dementia (as described above). Furthermore, some individuals' level of musical participation seems to increase when others in the group (peers, volunteers, or staff) model an active level of participation (Christie, 1995). Therefore, persons at various stages of dementia may be on a relatively level *playing field* (so to speak) when placed in appropriately structured musical contexts. Music therapists may utilize a wide range of interventions in day programs although the scope of practice normally aligns with the overall goals of the program—which generally address social, recreational, cognitive, behavioral, and sensory domains of functioning (Ahonen-Eerikainen, Rippin, Sibille, Koch, & Dalby, 2007; Jennings & Vance, 2002; Kelleher, 2001; Mercadal-Brotons, 2011).

Many persons with dementia will ultimately require placement in long-term care. Approximately two-thirds of residents in long-term-care facilities have dementia (American Psychiatric Association, 2010; Magaziner et al., 2000). "Placement is usually due to progression of the illness, the emergence of behavioral problems, the development of intercurrent medical illness, or the loss of social support" (American Psychiatric Association, 2010, p. 40). Although it is not always the case, persons with dementia

may be assigned to designated units/areas in long-term-care facilities where accommodations are made to meet their needs. The extent of these accommodations, however, can vary widely from facility to facility. Some focus largely on addressing basic safety and physical care needs, whereas others provide specialized programs in carefully designed environments. For an example of a state-of-the-art dementia care facility, where music and art therapy are an integral part of the program, please see: http://sunnybrook.ca/content/?page=veterans_dementia_care_dorothy_macham_home.

A music therapist's scope of practice in a long-term-care context can depend greatly on the nature of her position at the facility. Many music therapists work on a contractual basis through which they provide a few hours of music therapy services a week (group and/or individual) at a particular facility. Often, these music therapists have limited access to information about their clients and interactions with other staff, and may not be permitted to read or write in residents' health care charts. Although these programs can greatly improve the quality of life of persons with dementia, goals are often designed to address clients' needs in the moment since other information is unknown or limited. Conversely, music therapists who hold facility positions and are integrated into multidisciplinary care teams are able to design programs and implement interventions that align with residents' care plans and overall treatment goals. They may have the opportunity to colead or design programs in conjunction with other professionals, such as speech therapists (Bolton, 2012), physical therapists (Johnson, Otto, & Clair, 2001; Pacchetti et al., 2000), or spiritual care practitioners (Kirkland & McIlveen, 1999).

Music therapists may also assist staff in learning how to effectively use music in conjunction with various activities of daily living (ADL; e.g., bathing) (Thomas, Heitman, & Alexander, 1997). There may be opportunities to educate staff about the potential breadth of services (i.e., that music therapy is not limited to social or recreational goals) and thus receive a wide variety of suitable referrals for persons who could truly benefit from music therapy intervention. They may be called upon to train or oversee musical entertainers or volunteers to ensure that these individuals provide suitable musical programming. Finally, they may serve in a consultant role by helping to design and/or implement policies and procedures that enhance facility *sound environments*. These may focus on various issues such as the reduction of extraneous sound (e.g., turning off televisions that people are not watching) or monitoring the use of music in common areas (e.g., the dining room) to ensure that it meets the unique needs of persons with dementia (Campbell & Young, November, 2010; Mazer, 2010; Mercado & Mercado, 2006; Whitcomb, 1994).

While living at home or in long-term care, persons with dementia may need to be admitted to an inpatient facility (e.g., general medicine or psychiatric unit) for the treatment of psychotic, affective, or behavioral symptoms as well as for general medical conditions. Persons with dementia who are admitted to inpatient units are at particular risk in three areas: (a) behavioral problems due to fear, lack of comprehension, and lack of memory of what they have been told; (b) delirium, especially due to medications; and (c) difficulty in understanding and communicating pain, hunger, and other uncomfortable states (American Psychiatric Association, 2010, pp. 41–42). In short-term inpatient treatment contexts, music therapists may use interventions that help to calm patients' anxiety, reduce agitation, facilitate cooperation with ADL/medical procedures, promote relaxation/sleep, and enhance the environment and overall quality of their stay.

At the end of life, persons with dementia may be cared for in a long-term-care facility, hospital, or hospice program, or at home. On occasion, a hospice music therapist will be called upon to provide services to individuals who reside in long-term care (Patrick & Avins, 2005). Persons who are in the early stages of dementia will have at least some awareness regarding their prognosis, and in these cases, approaches to music therapy are similar to those outlined by Clement-Cortés on end-of-life care in Chapter 12, Volume 4, of this series (*Guidelines for Music Therapy Practice in Adult Medical Care*). As always, the music therapist would adjust the methods to meet the specific needs of the individual. For those who are unable to cognitively understand, retain, or process what is happening, music therapists

need to provide interventions that elicit feelings of comfort and safety for that individual and not use language that could elicit fear or anxiety (Bright, 1997). Music elements utilized should be chosen with great care, as the quality of voice, instruments chosen, tempo, etc., can have particular impact on a person with dementia who is also in a palliative care context. "These decisions are best grounded in the music therapist's training and intuition" (Patrick & Avins, 2005, p. 80). The music therapist must also listen carefully to what may seem like incoherent verbalizations as the individual may be trying to communicate an important message. The music therapist can validate and acknowledge this message through words and/or music as well as communicate this message to caregivers and/or loved ones (Patrick & Avins, 2005).

Caregivers and loved ones of persons with dementia often experience conflicting feelings about their loved one's impending death that include emotions such as relief, sadness, guilt, helplessness, etc., Music therapists can provide overarching support to family members/caregivers but can also help them to cope with these feelings by involving them in bedside music interventions with their loved ones—allowing them to feel involved and useful during the last days of care and helping them to work through some of their own feelings through the music (Bright, 1997; Patrick & Avins, 2005). Personalized music experiences can be a particularly effective and intimate way for loved ones to say good-bye or achieve a sense of closure when words are not possible.

Overall, it is important to remember that persons with dementia gradually lose the ability to effectively cope with various aspects of their environment—especially if that environment is unfamiliar. Some exhibit what appears to be an acute decline in functioning when they move from their home into a long-term-care facility (e.g., increased withdrawal, confusion, anxiety, agitation, aggression, and/or disinhibition). However, it may simply be the case that the individual was better able to compensate for his deficits in a familiar home environment. When interacting with clients who have dementia, there are some simple guidelines that music therapists can follow to help clients feel more at ease in their environment and thus increase their potential to benefit from music therapy (and other) interventions. These guidelines emerged from the current author's own knowledge and experience but are also informed by Bright (1997) and Chavin (1991):

- 1) Use simple and clear language/directions. Establish eye contact so that the person knows you are communicating with him. Provide frequent reminders as well as sensory and gestural cues when needed. Avoid asking too many questions and especially ones that are open-ended (e.g., rather than "What kind of music do you like?," ask "Do you prefer classical music or country music?"). Use a calm and reassuring tone of voice. Use humor and praise when appropriate. Slow down and be patient. Too much information can overwhelm the client.
- 2) Redirect a client's attention (using words, music, gestures, another activity, etc.) when he becomes fixated on something negative or when he exhibits difficult behaviors. Do not correct or reprimand a client for *inappropriate* behavior. If a client cannot be redirected, music therapy may be contraindicated at that time. Try again later.
- 3) Listen for the meaning behind a client's words even if they do not make sense (e.g., if an elderly client indicates that he is looking for his mother, he may be feeling lonely, lost, worried, etc.).
- 4) Do not argue, correct, or try to reason with a client about his perception of reality. Either redirect the conversation or validate the client's perspective and move on to another activity or topic.
- 5) Do not take socially inappropriate comments or negative reactions personally. Remain calm and use redirection.

- 6) Do not share upsetting information with a client that he is unable to process and/or retain (e.g., do not tell a client that his mother passed away many years ago if he believes that she is alive; gently redirect the conversation).
- 7) Do not talk about a client in front of him and/or assume that he cannot understand what you are saying.
- 8) Do not approach clients from behind, and avoid sudden movements. Explain and/or demonstrate what you are about to do (e.g., “I am going to move your chair nearer to the drum”).
- 9) Present instruments (or other objects) in a nonthreatening manner. Use hand-over-hand (when culturally acceptable) to help initiate participation but not necessarily to maintain it.
- 10) Some clients may have visual agnosia (i.e., they are unable to recognize the intended function of an object) or they may use instruments in a perseverative rather than a musically meaningful manner. Instrument-playing may be contraindicated for these clients.
- 11) Some clients are sensitive to particular timbres or may become overstimulated by too many sounds happening at once. Limit sound stimuli accordingly (e.g., too many percussion instruments may result in chaos and be countertherapeutic). Individual rather than group music therapy sessions may be indicated for persons who are particularly sensitive to sound.
- 12) Clients may appear not to recognize you from week to week, but over time, their actions may seem to imply a sense of familiarity. Be aware of clients’ *intuitive* sense of knowing and build upon this potential when designing interventions. Do not ask a client if he remembers you or what he did in his last session.
- 13) Generally, the more advanced the stage of dementia, the smaller the group must be. If one has to work alone (i.e., no assistants), it may be more beneficial to spend five minutes with ten individuals than to try to have a one-hour group session with ten people. If working in a group, seat people in circles or semicircles (not rows) to facilitate maximum interaction with the therapist.
- 14) Sometimes, it is better to work with clients in their unit or in their room rather than taking them out of their unit (e.g., to a designated music therapy space) where surroundings feel unfamiliar. Furthermore, there may be multiple safety issues to consider (e.g., toileting, wandering, aggressive behavior due to confusion, etc.). On the other hand, music therapy sessions held in spaces that are designated for other activities (e.g., a dining area) may be confusing for some clients.
- 15) Finally, assess the client’s environment to try to determine what may be causing a particular negative reaction or behavior. It is possible that adjustments may be made in the environment, which may help to support each client’s potentials (strengths) rather than highlight/exacerbate his deficits.

ASSESSMENT AND REFERRAL

As noted above, a diagnosis of dementia “is [primarily] based on behavioral assessments and cognitive tests that highlight quantitative and qualitative changes in cognitive functions and activities of daily living, which are characteristic of the dementia syndrome and its underlying diseases” (Olde Rikkert et al., 2011, p. 357). Staging scales (e.g., the Clinical Dementia Rating [CDR] scale, Morris, 1993) or standardized tools to assess behaviors (e.g., the Cohen-Mansfield Agitation Inventory; Olde Rikkert et al.,

2011; Weiner et al., 2002) may be used to describe and monitor clinical changes over time (American Psychological Association, 2013, January 30). Music therapy researchers have suggested that ongoing assessment of musical functioning would also provide a noninvasive and effective approach to monitoring clinical changes (Aldridge, 1998; Aldridge, 2000; Aldridge & Aldridge, 1992; Aldridge & Brandt, 1991; Lipe, 1995; Lipe, York, & Jensen, 2007; York, 1994). However, based on a review of the literature and the current author's experience, it appears that these procedures are used more commonly in research than in day-to-day practice. Typically, assessment procedures (especially in long-term care or other inpatient settings) involve the collection of profession-specific data by various multidisciplinary health professionals that is entered into an official health care record or chart. These data may be documented as progress notes (e.g., SOAP: Subject, Object, Assessment, and Plan, or DART: Description, Assessment, Responses, Treatment).

Formal assessment procedures may also be used. These include tools such as the Minimum Data Set (MDS; van der Steen et al., 2006), which provides a comprehensive interprofessional evaluation of an individual's functional abilities, or PointClickCare®, a form of electronic documentation commonly used in long-term-care facilities by the health professional team to manage the entire *life cycle* of each resident's care (PointClickCare®, 2013, April 18). The information obtained from the assessment is subsequently used to develop a care plan, which addresses the identified medical, practical, and/or psychosocial needs of each individual. Music therapists often contribute to these interprofessional forms of documentation by entering a summary of the results of their own assessment. However, they may or may not be able to include a copy of the music therapy assessment tool that they used in clients' health care records/charts. Many facilities allow only *approved* forms in these charts, and there are various legal, philosophical, and logistical reasons as to why this is the case. When music therapists complete clinical documentation that is not included in clients' official health care charts, they need to adhere to the privacy policies of their institution (or state/province/country/professional regulatory body) and store their documentation accordingly.

Depending on the context and/or on the procedures of a particular facility or program, referrals to music therapy may be made informally (e.g., through a verbal request) or may involve a formal procedure (e.g., a referral/request for consult form). Music therapists follow up on referrals by conducting a global music therapy assessment which determines how music experiences or interventions may be used to maintain or improve various domains of functioning (e.g., psychosocial, emotional, behavioral, cognitive, sensory, etc.). This assessment often occurs over the course of two or more sessions. Additionally, pertinent background information is gathered (including information about musical preferences and experiences) by reviewing the client's chart and, when possible, by speaking to persons who know the client (e.g., family, other health care professionals, etc.) or the client himself. The music therapy assessment tools identified by Abbott in Chapter 20 may be adapted for use with clients who have *mild* to *moderate* dementia (Hintz, 2000; Raijmaekers, 1993). A brief assessment protocol and tool created by Norman (2012) is suitable for use with various clients in long-term care—including those who have *mild* to *moderate* dementia. A descriptive music therapy assessment model formulated by Munk-Madsen (2001) may be adapted for use with clients who have *mild*, *moderate*, or *severe* dementia. This author suggests that the assessment sessions be video recorded or an outside observer be used in order to gather the necessary detailed information.

Music therapists will often create original assessment protocols and templates based on their own practical experience, knowledge, and philosophical orientation. Some music therapists may use a music-based assessment protocol to assess clients' music skills (e.g., rhythmic skills, melody/pitch recognition, etc.) and preferences. As noted above, these music-based assessments may reveal diagnostic information related to general cognition (Aldridge, 1998; Aldridge, 2000; Aldridge & Aldridge, 1992; Aldridge & Brandt, 1991; Lipe, 1995; Lipe, York, & Jensen, 2007). However, information pertaining to various domains of musical functioning may also help to determine the types of music experiences or

interventions that may be most effective in assisting a client to achieve nonmusical clinical goals or optimal musical engagement (Bright, 1997; Clair, Mathews, & Kosloski, 2005). Published music-based assessment protocols for persons with dementia include Music Skills Assessment (Bright, 1997); Residual Music Skills Test (York, 1994); and Music-Based Evaluation of Cognitive Functioning (Lipe, 1995).

No matter which assessment tool or approach is used, unless music therapy is contraindicated, music therapists ultimately establish goals for clients based on the results of their assessment. Broad, overarching goals for persons with dementia typically include improving quality of life, maximizing potential or functions within the context of existing deficits, and improving or maintaining cognitive skills, social skills, motor skills, mood, and/or behavior (American Psychiatric Association, 2010). An individualized *music therapy treatment/intervention plan* is formulated to determine how these goal areas (and emergent goal areas) will be addressed (e.g., in open-group, closed-group, and/or individual sessions; the time, location, frequency, and duration of sessions; the types of music interventions/experiences/ methods to be utilized, etc.). This plan may also indicate how *progress* is operationally defined and subsequently measured for each goal over time (e.g., through quantitative ratings, qualitative observations, frequency recording, etc.).

When implementing treatment plans, it is important to note that some persons with dementia may not have the capacity to fully understand what is being offered when they are invited to attend music therapy. Furthermore, their ability to make an informed decision can fluctuate according to time and circumstances. Music therapists must learn how to most effectively present the option of participating in music therapy to each client (i.e., in an individualized way) and provide him with ongoing opportunities to give *implied* consent (e.g., the therapist can note how the individual actually responds to a brief music intervention as opposed to a direct question) and informed *expressed* consent (when possible). If an individual's authentic wishes reveal that he does not want to participate in music therapy, these wishes should be respected and not overruled by what the therapist, other staff, and/or family feel is best (Mitty, 2012). These wishes should be reassessed over time as the individual's circumstances and needs change.

OVERVIEW OF METHODS AND PROCEDURES

An extensive literature review highlighted considerable diversity in the ways in which music therapy methods are described and utilized with persons who have dementia. In an attempt to organize, synthesize, and clarify these methods, the current author grouped similar music therapy interventions into categories. She then created a comprehensive description of each overarching method (i.e., category), integrating additional information derived from her clinical knowledge and experiences. Sources used to help formulate the guidelines are cited at the end of each method and where relevant, unique contributions from specific sources are noted. A music therapy session may be limited to one method, or alternatively, one session may contain several methods/interventions. Although some methods/interventions may be adapted for use by non-music therapists (as indicated throughout when applicable), the guidelines contained in this chapter were compiled for use in practice by professional music therapists or music therapy students/interns who are receiving clinical supervision.

Receptive Music Therapy

- **Moving/Exercise to Music:** Participants move their bodies in response to live or recorded music provided by the music therapist in combination with verbal, visual, gestural, and/or sensory cues.

- **Dancing with Spouse/Loved One:** The music therapist helps to facilitate engagement between a client and a spouse/loved one through the use of dancing in a group and/or private session context.
- **Environmental Music:** The music therapist designs recorded music programs that are used to create a supportive or therapeutic sound environment for a group of clients in a particular context (e.g., dining area).
- **Music-Supported Personal Care:** The music therapist provides personalized live or recorded music programs for individual clients during care activities such as bathing, toileting, dressing, and administration of medication.
- **Relaxation through Music Listening and Imagery:** The client listens to specially programmed live or recorded music in an individual private session to evoke peaceful and relaxing imagery experiences.
- **Music-Assisted Life Review:** The music therapist uses personalized music experiences with a client to evoke significant life memories, facilitate a sense of connection to one's self/identity, and/or provide closure at the end of life. Loved ones may also participate in some or all of the sessions.
- **Therapeutic Singing for Individuals with Severe Dementia:** individual sessions where the music therapist sings preferred songs to (or vocalizes with) individuals who have *severe* dementia. This intervention can involve a wide variety of therapeutic goals.
- **Music-Assisted Sensory Stimulation Theme Groups:** small group sessions for persons with *severe* dementia, where the music therapist helps to stimulate clients' senses within a structured and supportive environment.
- **Sensory Stimulation Using Instruments/Vibrotactile Stimulation:** The music therapist uses tactile stimulation and vibrations produced by musical instruments to elicit a sensory response.
- **Vibroacoustic Stimulation with Music:** The client reclines on a specially designed mat, bed, or chair that is embedded with speakers that convert specific frequencies into vibrations while listening to live or recorded music that is programmed by the music therapist.

Improvisational Music Therapy

- **Small Group Improvisation:** The music therapist creates an improvised musical structure based on sounds and/or music expressed by group members (4–6 participants).
- **Playing Percussion Instruments:** Clients play percussion instruments in response to a musical and/or rhythmic structure provided by the music therapist.
- **Nordoff Robbins Music Therapy—Individual Improvisation:** the development of a musical relationship between therapist and client through improvisation, which is considered to be the vehicle of therapy.
- **Soundbeam® Improvisation:** The Soundbeam® is programmed by the music therapist and uses motion sensors to translate body movements into musical sounds of varying pitch and intensity, which in turn provides clients with an accessible avenue for creative self-expression.

Re-creative Music Therapy

- **Group Sing-Along:** The music therapist sings precomposed songs in a group setting with live musical accompaniment to address a diverse range of general and/or specific therapeutic goals.
- **Music Reminiscence Groups:** The music therapist uses live and/or recorded precomposed music to enhance and/or promote participation in reminiscence discussion groups.
- **Community Music Therapy Performance:** The music therapist facilitates opportunities for clients (individual or group) to experience the joy of performing with and for others in a supportive and accepting environment.
- **Intergenerational Music Therapy Programs:** see Chapter 20.
- **Lyric Analysis:** The music therapist uses lyrics from familiar songs (verbally and musically) to convey a positive message or to validate a client's feelings.
- **Playing a Familiar (Known) Instrument:** The music therapist provides the client (also a musician) with resources, support, and/or adaptations needed to play a preferred (known) musical instrument.

Compositional Music Therapy

- **Group Songwriting:** The music therapist composes lyrics for clients or provides a directed structure wherein clients can compose lyrics related to a relevant group theme. The music therapist sets these lyrics to music using a pre-existing or original melody.
- **Recorded Music Collages:** In collaboration with the client, the music therapist compiles a collage (collection) of music recordings that are significant or meaningful for the client. This may include recordings of music made during the client's own music therapy sessions.

GUIDELINES FOR RECEPTIVE MUSIC THERAPY

Receptive methods described in Chapter 20 that require comprehension of language and/or verbal response may be utilized or adapted for persons with *mild* dementia. However, these methods are used less frequently or may even be contraindicated for persons who have *moderate* to *severe* dementia. Receptive methods contained in the current chapter may also need to be adjusted according to individuals' receptive and expressive language abilities as well as their ability to retain and/or process information.

If an individual with *moderate* to *severe* dementia responds verbally to a receptive music therapy experience, the therapist needs to validate the client's response in a way that best meets his needs and abilities. If the response is constructive (e.g., the client shares meaningful memories or feelings) and/or aligns with the established therapeutic goals, the therapist can encourage the client to stay with that feeling, work through that feeling, and/or build upon this response. If the response is negative (e.g., the client becomes fixated on feelings of sadness, fear, anger, anxiety, etc.), the therapist needs to acknowledge the client's feelings, allow a brief period for expression of these feelings (unless the client is extremely agitated), and then gradually redirect him toward another topic, activity, and/or intervention that better meets his current needs. Like everyone, persons with dementia have a right and a need to express a broad spectrum of emotions. However, the music therapist must assess the extent to which each individual is able to cognitively process difficult emotions and, if clinically indicated, determine the most suitable modality through which he can express these emotions (verbal and/or nonverbal).

Moving/Exercise to Music

Overview. Participants move their bodies in response to live or recorded music provided by the music therapist in combination with verbal, visual, gestural, and/or sensory cues. This method usually occurs in a group setting where individuals sit in chairs or wheelchairs, although some may prefer to stand depending upon their physical condition, therapeutic needs, and/or the nature of a particular movement activity. Group size depends upon the needs of the clients and the amount of staff/volunteer support available. Duration is approximately 30–45 minutes but can vary depending upon clients' needs and abilities.

This intervention is indicated for individuals with *mild to moderate* dementia who are at risk of physical deterioration and/or loss of skills because they do not initiate independent movement, as well as for those who need a constructive outlet for agitation, restlessness, and/or self-expression. This intervention is contraindicated for individuals who are too physically frail or exhausted from pacing, do not willingly move in response to the stimuli or cues provided, and/or may become overstimulated by this experience. The main goals for the clients are to maintain or improve physical condition or abilities, decrease agitation or disruptive behaviors by focusing attention on a structured activity, discharge anxiety or tension, increase self-expression through purposeful movement, improve mood, increase socialization, and/or stimulate cognitive function. The level of therapy is augmentative.

Preparation. Determine individuals who may be appropriate for this program through an assessment and/or referral process. Secure an open space where interruptions will be minimal. Design movement programs that are supported by live or recorded instrumental music, taking the stylistic preferences of the clients into consideration (see program structure described below in Procedures). Although song lyrics may be used to prompt specific movements, participants will often stop moving and sing along, so songs (i.e., music with lyrics) should be used sparingly, if at all (Cevasco & Grant, 2003; Johnson, Otto, & Clair, 2001). If possible, consult with an appropriate professional (a physical therapist or a dance movement therapist) to ensure that particular movements are safe for clients and/or to discuss ideas for movement programs in general.

If using live music, one group leader is needed to play the music (often on piano) and another is needed to cue the movements (e.g., a health care professional or trained volunteer). Depending upon the size of the group and the needs of the clients, it may be helpful to have volunteers, other staff members, or higher functioning peers participate in the group to provide additional modeling, cuing, and motivation for the clients (Christie, 1995) as well as for safety considerations.

What to observe. Notice unique movements initiated by individuals and incorporate these into the program. Provide additional cuing for those who are not responding. Look for early signs of anxiety (e.g., body language, facial expression, etc.) to prevent clients from becoming agitated or overstimulated.

Procedures. Arrange clients in a circle or semicircle (seated). For ambulatory persons, use straight-back chairs that accommodate individuals' needs (some with arms, some without). As long as there are no safety concerns, persons in wheelchairs may benefit from having the foot pedals removed. The group leader stands or sits in a visible location and verbally orients the clients to the program. Begin with a warm-up activity (breathing/stretching) supported by slow to medium-tempo music. This is followed by several movement activities—each of which is supported by music with a strong pulse played at a medium to upbeat tempo at a medium volume (i.e., loud enough to motivate participation but not too loud as this may agitate some clients). Ensure that clients have enough time to complete the movements. Model movements that involve the shoulders, hands, arms, head, neck, legs, ankles, and feet—using actions that come naturally/easily (e.g., shoulder shrugs, clapping, finger-snapping, waving, stamping feet, kicking, etc.). If using live music, adjust musical elements and styles to meet clients' needs as they

emerge and maximize participation. If individuals cannot follow the moves being demonstrated, encourage them to move to the music in their own unique way. Close the session with a cooldown activity (breathing/stretching) supported by slow to medium-tempo music. Thank clients for their participation and verbally orient them to what is happening next (e.g., they are going to lunch, back to their room, attending another activity, etc.).

Adaptations. Props may be used to elicit or maximize movements, although this may be confusing for some clients (Cevasco & Grant, 2003). These can include small percussion instruments, balloons, scarves/small towels, or a parachute/large sheet. Simple folk dances in a circle or familiar dance moves remembered by clients may be incorporated into programs (Bright, 1997). Improvised live music may also be used if the music therapist is adept at improvising in distinct styles/structures and able to adjust music in the moment to meet clients' needs. It should also be noted that some persons with dementia feel a strong desire to pace. It may be helpful (or satisfying) for these individuals to engage in music experiences while they pace (e.g., singing or playing a small instrument) (Chavin, 1991) or to redirect their energy into music and movement activities that inherently feel more structured and purposeful.

Other Sources. Belgrave, Darrow, Walworth, and Włodarczyk (2011), Bright (1997), Cevasco and Grant (2003), Shively and Henkin (1986), and Wade (1987) suggested/implied various goal areas for this method and provided some directions on how to facilitate movement/exercise to music programs for persons with dementia. Clair and Memmott (2008) outlined considerations on using music in exercise programs for older adults who have various needs—including those related to dementia. These considerations were integrated into the above description. Note: Readers may also want to consult *Movercise*—a DVD and training manual designed for use in exercise programs for persons with dementia (Schellin & Gemeiner, 2003).

Dancing with Spouse/Loved One

Overview. The music therapist helps to facilitate engagement between a client and a spouse/loved one through dancing. This may take place in a group and/or in a private session context.

This intervention is indicated for couples/loved ones who have a close relationship or for those who had a close relationship prior to the onset of dementia. This intervention is contraindicated for persons (client or loved one) who may be uncomfortable with this level of physical closeness (for personal, cultural, or religious reasons) (Clair & Memmott, 2008) or who may have physical limitations that make this activity inaccessible or unsafe. The main goals for the client(s) are to maintain/regain emotional intimacy with a loved one, increase loved ones' satisfaction with time spent together, re-initiate participation in a previously enjoyed activity, and elicit reminiscence. The level of therapy is augmentative.

Preparation. When possible, interview the client (may be part of a music therapy assessment process) and/or a spouse/loved one to discuss meaningful musical selections (e.g., a wedding song) and shared memories (Belgrave et al., 2011). Create a personalized music list. Gather recordings of these musical selections and/or learn live arrangements. Either schedule a session time for the spouse/loved one to come and dance with the client or be prepared to initiate this method in music therapy sessions when a loved one happens to be present.

What to observe. Notice if the client exhibits any signs of discomfort or pulls away when physical closeness is attempted (Clair & Memmott, 2008). Ensure that the area is safe so the couple(s) can move as freely as possible.

Procedures. Provide live and/or recorded music for dancing based on personalized music lists. Use verbal encouragement or other types of support/cues to elicit participation. When appropriate, engage the couple(s) in reminiscence between musical selections.

Adaptations. When standing up is not possible due to physical limitations, safety issues, or severe dementia, loved ones may sit with the client and initiate touch and/or movement (e.g., holding hands, moving arms in time to the music, putting arm around loved one's shoulders and swaying, etc.). When appropriate, clients may be encouraged to dance with each other to improve/increase social interactions between peers. The music therapist may compile personalized recorded music programs for couples to use on their own.

Other Sources. Belgrave et al. (2011), Clair (2002a, 2002b), and Clair and Memmott (2008) suggested/implied various goal areas for this method and provided some directions on how to facilitate dancing experiences. Chavin (1991) and Clair and Memmott (2008) proposed adaptations for this method as outlined above.

Environmental Music

Overview. The music therapist programs recorded music used to create a supportive or therapeutic sound environment for a group of clients in a particular context (e.g., dining area). This may not only improve clients' quality of life but also lead to decreased frustration for caregivers or staff.

This intervention is indicated for persons with *mild, moderate, or severe* dementia who engage more constructively in a specific task or context in response to specially programmed music. This intervention is contraindicated for those who respond negatively to recorded music programs and/or who are particularly sensitive to environmental sound stimulation. Recordings that include nature sounds may be contraindicated for persons with dementia, as they can become confused by sounds that do not fit with their environment (Grocke & Wigram, 2007). The main goals for the client(s) are to reduce negative behaviors and/or increase constructive behaviors in a particular context, experience an aesthetically enhanced environment, and regulate time spent on a task (such as eating). The level of therapy is augmentative.

Preparation. Schedule specific times for environmental music programs to occur. This may be determined by noting clients' responses to music at certain times of day and/or by noting their behavior patterns in particular contexts. Determine the general/common musical preferences of the client(s) involved. Preferred music of staff/caregivers should not be used unless it is the same as the clients' preferred music. Create a variety of recorded programs from which to choose based on clients' needs at the time of implementation. Music utilized must not be overly sedative so as not to induce drowsiness or inactivity or overly stimulating, as it may cause people to stand up, move, and/or sing along rather than perform the desired task (e.g., eating).

What to observe. While the music is playing, look for signs of agitation, and if these occur, either stop the music or remove the affected individual(s) from the environment. Notice if a client stops responding to the music. Music can become ineffective if overused or tedious for individuals who cannot turn it off when they no longer wish to hear it (Clair & Memmott, 2008).

Procedures. During scheduled times only, play designated music programs at an audible level on high-quality sound equipment. The music therapist or another trained individual should always be present in order to observe responses and/or adjust the music experience as needed (e.g., change the volume, change the music program, stop the music, move a client away from the sound source, etc.).

Adaptations. The music therapist may provide live environmental music, which can be adjusted to meet clients' needs in the moment as they emerge. The music therapist can train caregivers/staff how to effectively use recorded environmental music programs that he/she has designed for particular

contexts. This method may be adapted for use with individuals (Janata, 2012), similar to the Music-Supported Personal Care method described below.

Other Sources. Aldridge (2007), Chang, Huang, Lin, and Lin (2010), and Clair and Memmott (2008) suggested/implied various goal areas for this method and provided information on the use of music in dining contexts. Mercado and Mercado (2006) and Ziv, Granot, Hai, Dassa, and Haimov (2007) provided information on how to use music to create better sound environments for persons with dementia in order to increase positive and decrease negative behaviors.

Music-Supported Personal Care

Overview. The music therapist provides personalized live or recorded music programs for individual clients during care activities (bathing, toileting, dressing, administration of medication, etc.).

This intervention is indicated for clients with *moderate* to *severe* dementia who have difficulty participating or cooperating during care activities (e.g., demonstrate resistance, aggression, confusion, lack of motivation, etc.) and respond positively to musical stimuli in the care context. This method is contraindicated for persons who become more agitated or confused by music when it is incorporated into the care environment. The main goals for the client are to reduce anxiety, reduce aggression, improve cooperation with activities of daily living (ADL), improve orientation to task, improve awareness (sensory and environmental), maintain (feelings of) independence, and/or improve communication/relationship between the client and care provider. The level of therapy is augmentative but could be considered intensive if the music therapist is working in tandem with other treatment modalities as an equal partner or as the main therapist.

Preparation. Meet with care providers to better understand the issues, plan logistics, and educate them with regard to how music can help in this context. Meet with the client and/or family members (if possible) to assess/determine the client's preferred musical selections. If using live music, memorize the client's preferred musical selections or styles—vocal and/or instrumental. If using recorded music, create a variety of personalized music programs from which to choose based on the client's needs on a given day. Preferred music of the care provider(s) should not be used unless it is the same as the client's preferred music. It may also be appropriate to observe the client in the care context before providing music in order to get a better sense of the issues.

What to observe. Watch for signs of cooperation and other constructive interactions with the care provider as well as for signs of increased anxiety or agitation.

Procedures. Arrange the music source (live or recorded) in a way that will not interfere with the care activity procedure but at the same time will provide the client with optimal support (based on needs identified through the music therapy assessment process). Initiate the music either just before the care activity begins (to set the mood or relax the client) or as the activity begins. Adjust musical elements (e.g., volume, tempo, style, etc.) according to the client's responses (positive or negative). The music should fade gradually as the procedure ends or shortly thereafter. If the music is not helpful (after trying several adjustments), it should not be utilized.

Adaptations. The music therapist may train care providers on how to sing or use recorded personalized music programs while providing care (consult the sources listed below). The music therapist may utilize improvised live music during care and adjust music in the moment to meet the client's needs. If a client who has not had a music therapy assessment becomes extremely agitated during a caregiving activity, with the permission of the care provider, a music therapist may attempt a spontaneous live music intervention. If this is successful, the music therapist may design and implement an ongoing, personalized, music-supported care program as outlined above. The music therapist may also intentionally hold a session with a client just before a planned procedure or care activity. This may relax

(i.e., reduce anxiety, agitation, or wandering behavior), positively stimulate, and/or orient the client so that he will subsequently be more willing or able to engage in that procedure or activity (e.g., eating, taking medications, etc.) (McHugh, Gardstrom, Hiller, Brewer, & Diestelkamp, 2012).

Other Sources. Brown, Götell, and Ekman, (2001a, 2001b), Chatterton, Baker, and Morgan (2010), Clair, (2002c), Clair and Memmott, (2008), Engström, Hammar, Williams, and Götell (2011), Gerdner (2005), Götell, Brown, and Ekman (2000, 2002, 2003, 2009), Götell, Thunborg, Söderlund, & von Heideken Wågert (2012), Hammar, Emami, Engström, and Götell (2011a, 2011b), Hammar, Götell, Emami, and Engström (2011), Hammar, Götell, and Engström (2011), Hanser, Butterfield-Whitcomb, and Kawata (2011), and Thomas, Heitman, and Alexander (1997) suggested/implied various goals for the use of live/recorded music during personal care activities of persons with dementia. These sources also provided some information on how to use music during these personal care experiences. Chatterton, Baker, and Morgan (2010), Rio (2009), and the current author clarified roles for music therapists within this method—which may include having music therapists train care providers on how to use particular aspects of this method.

Relaxation through Music Listening and Imagery

Overview. The client listens to specially programmed live or recorded music in an individual private session to evoke peaceful and relaxing imagery experiences. Imagery experiences may include visions, thoughts, feelings, memories, fantasies, and/or body sensations (Grocke, 2005).

This intervention is indicated for clients with *mild* dementia who are experiencing mild anxiety/agitation and who are able stay focused during brief, therapist-supported, music listening and imagery experiences. This method is contraindicated for clients who experience hallucinations, have negative imagery in response to music listening experiences, and/or are unable to stay focused on the music experience even with support of the therapist. The main goals for the client are to reduce anxiety, increase feelings of well-being, experience a peaceful environment, promote rest or sleep, and/or reduce perception of physical pain or discomfort. The level of therapy is augmentative.

Preparation. Conduct an individual assessment to determine if this method might be appropriate for a particular client. If so, secure a private space where interruptions will not occur. The room should be dimly lit but not too dark. If using recorded music, speakers should be portable so that they can be placed in the best position for a particular client (head, feet, or on a particular side). Compile a variety of brief, relaxing music selections (live or recorded) from which to choose. These selections may include the client's preferred music.

What to observe. Notice subtle responses (e.g., respiration rate, facial expression, body tension, etc.) to ensure that the client is having a positive experience.

Procedures. Situate the client in a reclining chair or on a bed. Encourage the client to relax by using a very brief relaxation induction that may consist of a few single words combined with gestural cues (e.g., the therapist demonstrates relaxed breathing and posture). The therapist may provide the client with a starting image (e.g., a relaxing place or feeling). Start music (live or recorded). If using live music, the therapist may repeatedly sing comforting phrases or words, sing a relaxing song, vocalize (improvise without words) over instrumental accompaniment, or use instrumental music with no voice. The instrument utilized should have a gentle timbre (e.g., classical guitar, Native American flute, harp, cello, etc.). If vocalizing a cappella or if using recorded music, the therapist might stroke the client's arm or use hand massage to help him/her relax (if appropriate). The duration of the music should not exceed 10 minutes to ensure that the client does not enter into a deep altered state of consciousness. When the music ends, gently bring the client back to a present state of awareness by using clear verbal directions (e.g., "The music has ended and it is time to open your eyes"). The client may or may not want to discuss

his experience. The overarching point of the experience is to leave the client feeling relaxed and safe, and the therapist should facilitate the post imagery conversation accordingly. If the client falls asleep during the music and imagery experience, the therapist may quietly leave the room and check back at a later time.

Adaptations. The therapist may use a spoken relaxation script while recorded music is playing.

Sources. Grocke and Wigram (2007) was the primary source utilized to compile this method. This material was combined and integrated with information based on the author's knowledge and experience as a certified Guided Imagery and Music practitioner.

Music-Assisted Life Review

Overview. The music therapist uses personalized music experiences in individual sessions with a client to evoke significant life memories or facilitate a sense of connection to one's self/identity. When appropriate and possible, the client's loved ones may also participate in some or all of the sessions. (Please note that aspects of this method are also re-creative or compositional.)

This intervention is indicated for individuals with *mild* to *moderate* dementia who enjoy reminiscing, respond constructively (verbally or nonverbally) to personally significant musical selections, and would benefit from increased meaningful interactions with loved ones. This intervention is contraindicated for individuals who fixate on negative memories or who may become emotionally overwhelmed by the process. The main goals for the client are to affirm that one's life has had value and meaning, increase self-esteem, maintain sense of self, facilitate bonding/resolution with loved ones, and have a safe forum through which to express complex emotions, and/or achieve closure at the end of life. The level of therapy is usually augmentative but could also occur at the intensive or primary level if the client's main treatment goals are palliative.

Preparation. Conduct an assessment with the client and/or interviews with loved ones/caregivers (when possible) to learn about important life events, memories, personality traits, preferred music of the client, etc. Plan music experiences based on this information. This may involve learning repertoire and/or gathering recordings. If loved ones are attending the sessions, contact them to schedule a convenient session time. Secure a private space for the session(s). If audio or video recording the sessions, obtain the necessary written consent.

What to observe. Observe family dynamics and interactions. Notice the music experiences that the client responds most strongly to and the emotional nature of these responses.

Procedures. Facilitate individualized music experiences and discussion. In addition to music listening and reminiscence, the client and or loved/ones may actively participate in the music-making (re-creative). The therapist may also write songs (using pre-existing or original music) that honor particular aspects of the client's life (Belgrave et al., 2011). The therapist may write these songs independently, or they may be written during music therapy sessions in collaboration with the client and/or loved ones (compositional). When appropriate, a recording of significant musical moments from sessions may be compiled to give to loved ones (compositional; see Music Collages in Compositional Methods). Continue to use significant musical selections with the client even as his condition deteriorates, as persons with *severe* and *terminal* dementia may continue to respond positively and/or be comforted by this music.

Adaptations. This method is a process that normally occurs over time but could also be contained within a single session and may even emerge spontaneously within a session. It may also be used in sessions with families/loved ones (the client is not present) in order to help them remember their loved one before dementia, celebrate his/her life, and grieve over losses that have occurred.

Sources. Belgrave et al. (2011), Patrick and Avins (2005) and Tomaino (2000) suggested/implied various goal areas for this method and provided some directions on how to facilitate music-assisted life review experiences.

Therapeutic Singing for Individuals with Severe Dementia

Overview. Individual sessions where the music therapist sings preferred songs to individuals with *severe* dementia. Songs that have personal meaning may still reach these clients at an emotional level. These songs are often sung without instrumental accompaniment so that the therapist can utilize touch (when appropriate) and maximize response. This intervention may be used for durations of 10–15 minutes, several times a day, or multiple sessions may be held throughout the week.

This intervention is indicated for individuals who are withdrawn or agitated, and who are generally unresponsive or respond poorly to other stimuli. This intervention is contraindicated for individuals who do not respond positively to the songs (e.g., the person makes any effort to pull away, tenses muscles in the face or body, turns the head away in a deliberate manner, vocally responds as if in distress, etc.). The main goals for the client are to increase positive stimulation, experience meaningful interaction with another human being, improve awareness of external environment, create feelings of safety, regulate mood/level of arousal, increase cooperation, increase self-expression, experience recognition of his feelings by another, and utilize songs as cues to help orient him to the here-and-now. The level of therapy is augmentative, although it could also be considered primary if the method is used on a regular and ongoing basis to regulate mood/level of arousal.

Preparation. If possible, interview loved ones to gather information on the client's preferred music. Memorize words and melodies of the client's preferred music as well as words and melodies of music that the client is likely to know (based on age, culture, etc.). When possible and applicable, secure a space where there will be limited interruptions or other distractions. The first session may be used as a music-based assessment session.

What to observe. Carefully observe the individual before, during, and after singing to determine the effect(s) of the method. Observe very subtle responses (e.g., change in respiration rate; opening eyes; brief eye contact; moving head in the direction of the therapist/music/sound source; vocal sounds or changes in vocal sounds; moving arms, hands, legs, and/or feet, etc.) (Clair, 2000).

Procedures. Sit with the client at bedside or bedside chair. Consider proximity and use of touch based on the client's needs and known/implied preferences. Begin the session by singing a song that matches client's demeanor and/or energy level (Iso principle). This could be an opening song that incorporates the client's name. Adjust elements of music that appear to positively affect the client's responses (e.g., vocal timbre, tempo, use of rubato, with or without lyrics, etc.). End the session when the desired state is achieved (e.g., the client appears to be content, satisfied, calm, etc.). The final intervention should provide a sense of closure.

Adaptations. Caregivers/loved ones may be taught to use aspects of the above intervention. The music therapist may use improvised songs/vocalizations instead of or in addition to precomposed songs, depending upon the needs and responses of the client. Improvised vocalization may also be used (in or outside of a formal session context) to regulate clients who are agitated. Here, the music therapist matches the client's level of vocal arousal with her voice (Iso principle) and then gradually modifies musical elements of these vocalizations to help the client achieve a more optimal state of being. It should be noted that this method could be considered a form of entrainment—which, depending on how it is used, may require advanced training. Musical entrainment is a process whereby physiological rhythms of the body are synchronized with external rhythmical stimuli created through music (Dileo & Bradt, 1999; Patrick & Avins, 2005; Ridder, 2011; Wigram, Pederson, & Bonde, 2002).

Other Sources. Clair (1996, 2000), Clair and Memmott (2008), Gaertner (1999), Ridder (2005, 2011), Ridder and Aldridge (2005), and Robertson-Gillam (2011) suggested/implied various goal areas for this method and all sources provided some directions on how to facilitate individual therapeutic singing experiences for persons with *severe* dementia. This information was combined to form the above method.

Music-Assisted Sensory Stimulation Theme Groups

Overview. This method is used in small group sessions (approximately four participants) for clients with *severe* dementia. The music therapist helps to stimulate clients' senses within a structured and supportive environment. Music may be used as the stimulation in and of itself, or it may be used to support the theme of the session and/or the presentation of various stimuli. These groups are approximately 15–30 minutes in duration based on the clients' level of fatigue and/or attention span. However, these groups may take place several times a week.

This intervention is indicated for individuals with *moderate* to *severe* dementia who are withdrawn, depressed, and/or lack stimulation. The method is contraindicated for individuals who respond negatively to any of the stimuli presented or for those who have visual agnosia. The main goals for the clients are to stimulate one or more senses during the session (e.g., aural, visual, tactile, and olfactory), improve mood, improve engagement with others, and improve engagement with their immediate environment. Given the dietary restrictions and swallowing disorders that often exist in this population, gustatory stimulation may be contraindicated. The level of therapy is augmentative.

Preparation. Determine the appropriateness of the method for particular clients based on an assessment and/or referral process. Secure a space where interruptions will be minimal. Choose a simple theme (e.g., colors, trip to the beach, flowers, holidays, seasons, etc.) around which a number of simple sensory activities can be designed. Gather props for sensory activities. Learn and memorize simple music selections that reflect the theme and/or support particular sensory activities. For example, one might sing a song about the ocean while helping a client to hold or play an ocean drum. The therapist should keep all materials within arm's reach so that she can stay within close proximity of each individual.

What to observe. Carefully observe individuals before, during, and after each session to determine the effect of the method and to understand which sensory interventions work best for particular individuals. Be aware of very subtle responses (e.g., change in respiration rate, brief eye contact, slight change in body posture or facial expression, etc.). The intervention should be discontinued if an individual makes any effort to pull away, tenses muscles in the face or body, turns the head away in a deliberate manner, and/or vocally responds as if in distress.

Procedures. Seat participants in a small circle or around a small table. Orient individuals to the context by singing a greeting song that contains each individual's name and by singing a song that introduces the theme (e.g., "My Bonnie Lies Over the Ocean"). Offer each individual a chance to experience each sensory activity, verbally/vocally reiterating the theme topic several times during each activity. Adjust each activity according to each individual's potential for response. At least one activity should involve vibrotactile stimulation (e.g., have the client hold or place hand on a drum while the therapist plays it). Verbally encourage individuals in the group to look at each other or to experience stimuli at the same time (e.g., have two clients hold the drum while the therapist plays it). At the end, thank each individual for participating in the group. Sing a song to reinforce that the group is over for the time being but that it is not a final good-bye (e.g., "Till We Meet Again").

Adaptations. Each activity contained in a group session may be used on its own as a short intervention. The intervention can be adapted for individual sessions where loved ones/caregivers may also be involved.

Source. Chavin (1991) was the primary source utilized to compile this method. This material was combined and integrated with additional information based on the author's knowledge and experience.

Sensory Stimulation Using Instruments/Vibrotactile Stimulation

Overview. The music therapist uses tactile stimulation and vibrations produced by musical instruments to elicit a sensory response. This method is usually one activity within a small group music therapy session that contains other interventions. This intervention is indicated for individuals with *severe* dementia who respond overtly and positively when they perceive and feel sound vibrations. This intervention may be contraindicated for persons who become agitated by this type of stimulation. The timbre of certain musical instruments may be disturbing or painful for some individuals or some individuals may perseverate when playing certain instruments, thereby negating the potential for positive stimulation. The main goals for the client(s) are to increase creative self-expression through an accessible medium, increase sensory stimulation, increase engagement with others, and improve engagement with/orientation to their immediate environment. The level of therapy is augmentative.

Preparation. Collect instruments of various shapes, textures, and timbres (e.g., ocean drum, rain stick, triangle, cabasa, etc.). Avoid instruments with loud or startling sounds. Instruments that can be placed on the client's lap while being played (e.g., autoharp, omnichord, iPad) may also be effective.

What to observe. Be aware of very subtle responses (e.g., change in respiration rate, brief eye contact, slight change in body posture or facial expression, etc.). The intervention should be discontinued if the person makes any effort to pull away, tenses muscles in the face or body, turns the head away in a deliberate manner, and/or vocally responds as if in distress.

Procedures. Tell the group that they are going to hear a sound. Demonstrate an instrument sound a few times, allowing the sound to resonate. Approach each client individually and demonstrate the sound again. Encourage each client to touch the instrument and/or hold the instrument while the therapist plays it. If necessary and appropriate, use hand-over-hand cuing to facilitate contact with the instrument or to help an individual play an instrument. Ask each client simple questions about the sound or the feel of the instrument (e.g., do you like that sound?; is it a wet sound or a dry sound?; is it a dark sound or a light sound?; does the instrument feel rough or smooth?; etc.). Reverse choices when posing the questions to help determine if a client's answer is meaningful or echolalic. In a group setting, ask group members to bring their attention to a particular client when he is playing a sound. Thank each client. Move on to the next person and repeat the exercise, adjusting to the needs/responses of each client until everyone has had an opportunity to participate.

Adaptations. Use a variety of instruments in a session and compare the client's individual responses as well as responses among the group members. This intervention may be adapted for use in individual sessions.

Sources. Belgrave, (2009), Chavin, (1991), and Clair and Bernstein, (1990) suggested/implied various goal areas for this method. Chavin (1991) provided some directions on how to facilitate sensory stimulation experiences using instruments. This material was combined and integrated with additional information based on the author's knowledge and experience.

Vibroacoustic Stimulation with Music

Overview. The client reclines on a specially designed mat, bed, or chair that is embedded with speakers that convert specific frequencies into vibrations while listening to recorded music specially programmed by the music therapist (free-field listening, as opposed to headphones/ear buds, is usually better for clients with dementia).

This intervention is indicated for clients with *mild* to *moderate* dementia who are experiencing anxiety and/or respond positively to vibrotactile stimulation. This intervention is contraindicated for clients who are agitated by this type of stimulation, have experienced past psychotic episodes or suffer from PTSD, have pacemakers, and/or cannot lie down or sit still long enough to engage in the experience. The main goals for the client are to reduce anxiety/agitation and/or increase positive sensory stimulation. The level of therapy is augmentative.

Preparation. Secure a dedicated quiet space for the therapy equipment. The music therapist should receive practical and theoretical training on this equipment before using it with clients. Conduct an assessment with the client and carefully research his background information in consideration of the above contraindications. If therapy is potentially indicated, schedule sessions with the client during a time of day when he/she is typically most anxious or agitated. Ensure that the session will be uninterrupted (e.g., place a “Do Not Disturb” sign on the door). Program relaxing recorded music selections. These may be based on client’s preferences as determined through the music therapy assessment. Unfamiliar music may be more effective with some clients as it elicits fewer associations. It may also be helpful to consult Grocke and Wigram (2007) for guidelines on choosing music to be used during vibroacoustic treatments (pp. 226–227). However, it is important to note that these are general guidelines and do not account for the unique needs of persons with dementia.

What to observe. Be aware of very subtle responses (e.g., change in respiration rate, facial expression, muscle tension, etc.). Some clients may have difficulty verbally expressing their responses to this intervention (i.e., they may not be able to articulate if it is a pleasant experience or not). This intervention should be discontinued if the person shows any signs of distress.

Procedures. Assist the client to sit or lie down and find a comfortable position. Encourage him to relax by using verbal or gestural cues or a brief but more formal relaxation induction. Initiate the appropriate (indicated) vibroacoustic stimulation and music. Monitor the client’s responses. Make adjustments to the stimulation and/or music if needed. The length of the session may vary based on client’s responses.

Adaptations. The music therapist may provide live music during the vibroacoustic experience.

Sources. Chavin, (1991), Clair and Bernstein, (1990, 1993), *Vibroacoustics for Seniors*, (2012) and Grocke and Wigram (2007) suggested/implied various goal areas for this method. *Vibroacoustics for Seniors*, (2012) and Grocke and Wigram (2007) provided some directions on how to facilitate vibroacoustic stimulation experiences with music and also outlined contraindications for this method. This material was combined and integrated with additional information based on the author’s knowledge and experience.

GUIDELINES FOR IMPROVISATIONAL MUSIC THERAPY

Small Group Improvisation

Overview. The music therapist creates an improvised musical structure based on sounds and/or music expressed by group members. The group should contain no more than 4–6 participants so that the therapist can hear and develop individuals’ musical contributions.

This method is indicated for individuals with *mild* to *moderate* dementia who have difficulty with self-expression (verbal or other) and who find satisfaction through participation in shared musical experiences. This method is contraindicated for clients who may become overstimulated and/or are unable to use instruments in a musically meaningful way. This would be indicated when the client plays in a perseverative manner and/or does not recognize the function of instruments/objects (visual agnosia); becomes agitated if he cannot recognize the music (i.e., responds positively to familiar music only); or is

physically incapable of manipulating instruments or using the voice. The main goals for the client(s) are to increase social interaction, increase awareness of self within a group environment, increase creative self-expression, and participate in an aesthetically satisfying experience. The level of therapy is augmentative.

Preparation. Conduct individual music therapy assessments to determine if this intervention is suitable for particular clients. Secure a private space where participants can make music and/or vocalize freely without interruption. The therapist must have strong improvisational skills on at least one pitched instrument (or voice) to provide the necessary musical structure and direction.

What to observe. Listen to individual clients' musical/sound contributions. Watch for signs of agitation and/or overstimulation. Assess clients' feelings and the overall mood of the group by observing their body language, gestures, facial expressions, and overall appearance.

Procedures. Verbally orient clients to the music therapy context. Distribute various percussion instruments based on clients' intuitive skills and/or preferences (identified through individual assessments). Demonstrate how to play each instrument as necessary. Clients may choose to not play an instrument. Listen for spontaneous sounds or vocalizations made by clients and use these as the starting point for the improvisation or, if necessary, provide a musical starting point. Listen for each individual client's sound contributions and develop these musically. The therapist's musical decisions are based upon what she thinks might be helpful for individual participants (e.g., encourage a socially withdrawn client to play louder). Encourage solo, dyad, and full-group improvisations. Provide closure at the end of the session by using a structured singing or listening activity.

Adaptations. This intervention may be adapted for use in individual sessions (similar to the Nordoff Robbins Music Therapy—Individual Improvisation method outlined below). It may also be appropriate to have an opening/warm-up activity or ritual before implementing this intervention (e.g., a greeting song). Opening and closing rituals offer form and familiarity, especially for group members who may not consciously remember the group from week to week.

Sources. Odell-Miller (2002) and Rio (2002) were the primary sources utilized to compile this method. This material was combined and integrated with additional information based on the author's knowledge and experience.

Playing Percussion Instruments

Overview. Clients play percussion instruments in response to a musical and/or rhythmic structure provided by the music therapist. This structure may be improvised or precomposed. In a group setting, individuals with *mild to moderate* dementia are often able to entrain their playing with others and interact rhythmically even though they may be unable to interact in other ways. In order to avoid overstimulation or chaos, group size should be limited to 6–8 people. This method may be used as the main intervention in a session along with an opening and closing intervention for an approximate duration of 30–45 minutes. Alternatively, it may be one activity in a music therapy session that contains other interventions.

This method is indicated for individuals with *mild to moderate* dementia who enjoy playing percussion instruments and who exhibit overt (often spontaneous) positive responses to rhythmic stimulation. This method is contraindicated for individuals who do not like percussion instruments—some may feel it is age-inappropriate (Bright, 1997) or find loud sounds physically painful (Clair & Memmott, 2008). It is also contraindicated for those individuals who consistently play instruments in a perseverative manner, do not recognize the function of the instruments (visual agnosia), and/or become agitated or overstimulated by the experience (Clair & Memmott, 2008). The main goals for the client(s) are to maintain fine and/or gross motor skills, maintain attention to task, participate in a satisfying “here-

and-now” experience, increase self-expression, increase vibrotactile stimulation, and find a constructive outlet for anxiety or agitation. The level of therapy is augmentative.

Preparation. Conduct individual music therapy assessments or observe individuals in other music contexts to determine the potential suitability of this intervention for particular clients. Secure a designated space where participants can play percussion instruments freely without experiencing other distractions or having to worry about disturbing others. Although a variety of percussion instruments may be used (e.g., drums, claves, temple blocks, suspended triangle, etc.), it is best to use high-quality, age-appropriate instruments that make a clear or distinct sound when struck so that participants can feel/create the rhythmic pulse. It is also helpful to determine which instruments are most suitable for individuals based on their preferences and capabilities. Some instruments may need to be adapted for particular individuals (e.g., special stands, clamps, holders, grips for mallets, etc.). If using melodic percussion (e.g., xylophones, glockenspiels, etc.), the therapist needs to design interventions that will incorporate these instruments in an aesthetically pleasing way (i.e., consider tonality). The therapist should prepare a variety of rhythm activities and instrumental musical selections from which to choose in order to respond to clients’ needs and responses as they emerge.

What to observe. Watch for signs of agitation and/or overstimulation. Assess clients’ feelings and the overall mood of the group by observing body language, gestures, facial expressions, and the nature of their rhythmic contributions (e.g., aggressive, gentle, disorganized, syncopated, etc.). Clients who become agitated should be removed from the group (by a staff or volunteer assistant if possible). The current author and others have also noticed that as some clients progress from a *mild* to a *moderate* stage of dementia, their tendency to play more complex and syncopated rhythms may increase (Clair, Bernstein, & Johnson, 1995; Clair & Ebberts, 1997).

Procedures. Arrange participants in a circle or semicircle (seated). For ambulatory persons, use straight-back chairs that accommodate individuals’ needs (some with arms, some without). Verbally orient clients to the activity or context. Distribute instruments to clients based on their predetermined preferences and needs. Some clients will need a brief demonstration or reminder on how to play their instrument. The therapist should stand or sit in a visible location and play a distinct-sounding percussion instrument (such as a drum or a cowbell) to encourage clients to participate in directed rhythm activities (e.g., call-and-response, stopping and starting, exploring different tempos and volumes, etc.). She may also play instrumental selections (usually on piano/keyboard) and encourage clients to play along in various ways. The therapist must provide structure and guidance through visual/gestural, verbal, and musical cues to maintain participation. Some individuals may need a personal assistant to help with cuing, hold an instrument, and/or accompany them back to a familiar/quiet space if they become agitated. Although simple rhythmic patterns may help to create successful experiences, some groups may be able to intuitively learn more complex patterns over time.

Adaptations. Groups may focus on a particular kind of percussion instrument (e.g., drums—see “Therapeutic Drumming” in Belgrave et al., 2011, p. 46) rather than use a variety of instruments. This intervention may be adapted for use in individual sessions for those who respond strongly to rhythm but may be overwhelmed by the group setting. There may be some clients who enjoy the group experience but have trouble maintaining a beat, which in turn may affect the group’s overall rhythmic cohesiveness. These clients may still participate if they are amenable to playing a softer instrument (such as an egg shaker or a small maraca) that will not impact on the group’s ability to maintain the pulse. Although live music or rhythmic stimuli are usually more effective and flexible, clients may play percussion instruments along with carefully chosen recorded music that aligns with participants’ preferences and/or naturally evokes strong rhythmic responses (e.g., Big Band music, military marches, symphonic music, etc.).

Other Sources. Cevasco and Grant (2006), Clair, Bernstein, and Johnson (1995), Bright, (1997), and Clair and Memmott (2008) suggested/implied various goal areas for this method as well as some directions on how to facilitate percussion playing experiences for persons with dementia.

Nordoff Robbins Music Therapy—Individual Improvisation

Overview. Individual improvisation within the Nordoff Robbins Music Therapy model involves the development of a musical relationship between therapist and client through improvisation, which is considered to be the vehicle of therapy. Developed by Paul Nordoff and Clive Robbins in the 1950s (Nordoff, Robbins, & Marcus, 2007), it was originally designed for children with special needs but is now used with various populations, including adults with dementia. The frequency and length of sessions is flexible, based on a client's needs.

This intervention is indicated for clients with *mild to moderate* dementia who have the capacity and desire to express themselves through cocreated improvisational music experiences. This intervention is contraindicated for clients who express or imply a preference for other kinds of musical experiences. The main goals for the client are to engage in a musical and interpersonal relationship, increase creative self-expression, increase sense of identity, and/or increase orientation to musical experiences that are happening in the “here-and-now.” The level of therapy is augmentative, or it may be considered primary depending upon the main therapeutic needs of the client and the nature of the therapeutic change.

Preparation. Secure a private space with a piano and variety of percussion instruments. If audio or video recording the sessions, obtain the necessary written consent. Although all music therapists may utilize the aspects of the Nordoff Robbins Music Therapy model, it is important to note that music therapists who use this model as their main approach have completed certification in this method.

What to observe. Sessions are often audio or video recorded and then indexed afterward (i.e., time and corresponding clinical and musical details are carefully noted and reviewed to assess the moment-to-moment experience of each session).

Procedures. Play the piano along with the client who may use a range of percussion instruments and/or voice. Provide a variety of musical, verbal, gestural, and sensory cues to help the client engage with the instruments. Exploratory sessions usually begin with drum and cymbal. In a therapy process that occurs over time, the client may use other rhythmic/melodic instruments (tone bars, xylophone, piano, voice, etc.). Listen for the client's sound contributions and try to develop these musically. The emphasis is on creating one or more improvisations per session.

Adaptations. The therapist may support the client using instruments other than piano (including voice). Within a session or over a course of sessions, therapists may use other methods/interventions in combination with this method.

Sources. Aldridge and Aldridge (1992), Aldridge and Brandt (1991), and Simpson (2000) were the primary sources utilized to compile this method. This material was combined and integrated with additional information based on the author's knowledge and experience.

Soundbeam® Improvisation

Overview. The Soundbeam® uses motion sensors to translate body movements into musical sounds of varying pitch and intensity, which in turn provides clients with an accessible avenue for creative self-expression.

This intervention is indicated for clients with *mild, moderate, or severe* dementia who respond with interest and engage with the Soundbeam® through voluntary, purposeful (responsive) movements as

well as for clients who have limited mobility and/or communication deficits. This intervention is contraindicated for clients who are negatively stimulated or confused by the Soundbeam® or who do not overtly respond to it. The main goals for the client are to enhance posture, balance, and/or trunk control; increase creative self-expression; increase sensory stimulation; and motivate purposeful movement and active participation. The level of therapy is augmentative.

Preparation. The MIDI module that is connected to the Soundbeam® can be programmed by the therapist to contain personalized sound stimuli that are meaningful, appealing, or stimulating for a particular client. These preferences may be determined through a music therapy assessment process or may be known to the therapist if she works with the client in another music therapy context.

What to observe. Be aware of very subtle responses (e.g., change in respiration rate, slight change in body posture or facial expression, etc.). The intervention should be discontinued if the person demonstrates a negative response (e.g., moves away from the beam, vocally responds as if in distress, etc.).

Procedures. The first session may be used as an assessment session. Position the beam so that when the client moves, sound is triggered. Experiment with different sounds to determine client's preferences. Use gestural and verbal cues when necessary to encourage and validate client's participation.

Adaptations. The therapist may play the Soundbeam® in conjunction with the client or use another instrument to support the client while he plays the Soundbeam®.

Sources. Gaertner, (1999) and Soundbeam®, (2013, January 30) were the primary sources utilized to compile this method. This material was combined and integrated with additional information based on the author's knowledge and experience.

GUIDELINES FOR RE-CREATIVE MUSIC THERAPY

A significant amount of literature supports the idea of using preferred, precomposed music for clients with dementia as it generally yields positive therapeutic outcomes (Bright, 1997; Clair, 2000; Clair & Memmott, 2008; Lesta & Petocz, 2006; Tomaino, 2000). As noted earlier in this chapter, musical memories and skills are often retained by persons with dementia—even as other areas of memory deteriorate. Furthermore, using a client's preferred music demonstrates respect for the individual's expressed or implied preferences. However, some research has indicated that persons with frontal temporal lobe dementia may experience changes in their music preferences (Geroldi et al., 2000; Mell, Howard, & Miller, 2003; Ridder & Aldridge, 2005). It is also important to note that using a client's preferred music in a music therapy context goes far beyond simply replicating favorite selections and also involves changing the music as needed to meet the needs of the client as they emerge (Ridder & Aldridge, 2005). These factors should be taken into consideration when executing all interventions that utilize precomposed music—this point is especially relevant to the methods/interventions contained in this section.

Group Sing-Along

Overview. The music therapist sings precomposed songs in a group setting with live musical accompaniment (piano, guitar, accordion, or other). Some songs may be sung a capella or with a percussion instrument such as a hand drum. It is similar in nature to the Community Singing intervention described in Chapter 20, but when working with persons who have dementia in a group-singing context, the therapist needs to be more directive and provide very structured opportunities for choice. The group may be open (e.g., drop-in group where attendees may vary from session to session; therapeutic goals are general and not targeted toward individual needs) or closed (e.g., same participants every week; goals

target specific therapeutic needs of individuals). The group may be quite large (up to 15 people), but only if there is at least one staff or trained volunteer assistant for every 3–5 persons. Under the guidance of the therapist, these assistants may help to maximize clients' participation through modeling or cuing. The duration of the group is approximately 45–60 minutes and can be held one or more times a week.

Although some individuals with *severe* dementia may benefit from this program, this intervention is generally indicated for individuals with *mild* to *moderate* dementia who enjoy singing and who thrive in social settings. It may also be held later in the day in order to address issues associated with “sundowning”—increased agitation that occurs in some people with dementia during late afternoon and evening hours (see Adaptations below). This intervention is contraindicated for individuals who may become overstimulated by this experience, respond more positively in small group or individual contexts, and/or do not enjoy the styles/genres of music that are being utilized. The main goals for the clients are to increase creative self-expression; maintain expressive language abilities; increase awareness of self and others; participate in constructive social interactions; make choices through song requests; increase self-esteem through successful participation; improve mood; stimulate deep breathing and physical relaxation; participate in a purposeful activity; elicit feelings of control, self-efficacy, and a sense of coherence; improve general orientation (time of day, season, etc.); and experience a safe environment within which the inherent therapeutic benefits of singing can occur. The level of therapy is augmentative.

Preparation. Learn how to sing and accompany a wide range of repertoire that is stylistically and culturally appropriate for the age cohort(s) attending the program. The therapist should memorize as much of this repertoire as possible or create lead sheets so that she can focus on interacting with the participants. Transpose music into an appropriate vocal range (in general, F below middle C to C above middle C for women and an octave lower for men) (Moore, Staum, & Brotons, 1992). Keep accompaniments simple, although not too simple as clients may disengage (Groene, 2001), and use accompanying instruments that can be adjusted easily with regard to pitch, tempo, and volume, such as guitar, keyboard, autoharp, accordion, etc. Prepare lyrics for projection onto an overhead screen (use an overhead or LCD projector if needed and appropriate; song sheets/books tend to cause distraction or confusion that hinders participation) (Bright, 1997; Chavin, 1991). Secure a space that is large enough so that the maximum number of anticipated participants can sit in a circle or semicircle (rows should be avoided) (Bright, 1997). Volunteer or staff assistants may be needed to model participation, assist with individual participants' needs, and/or for safety purposes, depending upon the size of the group. These persons may need guidelines/training from the music therapist so that they have a clear understanding of their role. Depending upon the size of the group, the therapist might want to use a wireless amplification system (headset) to maintain clients' attention and to avoid vocal fatigue.

What to observe. Look for emerging signs of anxiety (e.g., body language, facial expression, etc.) to prevent clients from becoming agitated or overstimulated. Notice if certain clients do not get along—plan seating arrangements and assistance accordingly. Notice clients who are not participating and determine if they might benefit from additional cuing or assistance. Some clients may indicate that they cannot sing or that they have a poor singing voice. These individuals will usually end up singing if they are reassured that singing is not “required” and that listening is also an acceptable form of participation.

Procedures. Have recorded music playing at a low volume as clients enter the room to help orient them to the context. Ensure that individuals are seated in their assigned locations (if applicable). Welcome clients and verbally orient them to the group singing context. Start with an opening song that further orients the clients to the context and also matches their current mood/energy level (Iso principle). This song may include clients' names. Play a variety of precomposed songs at tempos with which participants are able to sing along (usually a bit slower than usual). In order to maintain clients' attention and elicit maximum response, do not play more than two songs in a row that are in the same key and do not play too many fast or slow songs in succession. In order to accommodate those who may have trouble

singing the lyrics, repeat well-known verses at least twice and sing some verses on a neutral syllable (e.g., la, la). Elicit responses by slowing phrases down and allowing the participants to complete the line, use call-and-response lyric techniques, sing some verses a cappella, and clap hands. Use imitation and modeling to support, extend, and reinforce participants' responses. Use verbal, gestural, and musical cues to encourage clients to look at one another and notice what others are doing. When transitioning between songs, clients often enjoy brief, therapist-directed discussions about relevant music history, trivia, or other reminiscence topics. End the session with a medium tempo or slow closing song that indicates that the session is over. In order to avoid an escalation in anxiety, it is also important to let the clients know what is happening next. For example, the current author has often closed sessions using a song with a familiar tune that states several times "Music time is over and now it's time for [fill in the blank with an appropriate activity]."

Adaptations. There are *many* variations on this method. Clients may choose songs by taking a slip of paper from a hat or drum that contains a song title. Song choices may also be contained within the context of games such as "Musical Bingo" or "Spin the Music Wheel" (Belgrave et al., 2011). A Sing-Along Group session may be composed of repertoire that adheres to a relevant theme (e.g., holidays, seasons, cultural practices, etc.). Familiar objects or photographs that are linked to a theme or a song may be used to elicit song ideas, memories, and/or social interaction. Clients may play percussion instruments during this activity. However, to avoid overstimulation and/or chaos, instruments should not be used for the duration of the group (Bright, 1997). Rather, focus on one or a particular set of instruments to complement a specific song in a meaningful way. For example, it may be appropriate to use drums during a marching song. Not everyone has to play an instrument, and individuals can take turns on particular instruments. A client may want to lead/conduct a particular song or have a solo vocal part, and the therapist can provide the structure to ensure that this happens in an appropriate and successful way. The general principles of this method may be adapted for individuals (or dyads) that enjoy singing but prefer to sing alone or find the group setting too overwhelming.

For clients with *mild to moderate* dementia, Darnley-Smith (2002) proposed the concept of "acoustic dreaming." Here, precomposed songs occur freely in the group through suggestion or spontaneous singing of clients or therapist. Free improvisation is incorporated into the song structures using instruments and voice. The author suggested that this combination allows space for unconscious material to emerge, thus resulting in more authentic self-expression.

When running a sing-a-long group specifically to address issues related to sundowning, consider the following adaptations (modified from Whitcomb, 1994; Lesta & Petocz, 2006): (a) create a comfortable and protected environment by eliminating unnecessary stimulation (e.g., dim bright lights, draw curtains, secure a private space, seat clients strategically, etc.), (b) focus on relaxation and anxiety reduction rather than stimulation, (c) provide ongoing reassurance and redirection of attention to the music context, (d) do not include individuals whose anxiety cannot be ameliorated by the group as this will agitate others in the group, (e) use a gentle song to facilitate closure, and (f) orient clients to the next activity (e.g., meal, bed, television, etc.)

Other Sources. Bright (1997), Cevasco and Grant (2006), Chavin (1991), Clair (2000), Clair and Memmott (2008), and Robertson-Gillam (2011) all suggested/implied various goal areas for this method and provided some directions on how to facilitate group sing-alongs.

Music Reminiscence Groups

Overview. The music therapist uses live and/or recorded precomposed music to enhance and/or promote participation in reminiscence discussion groups.

This method is indicated for clients with *mild* to *moderate* dementia who enjoy discussing memories and events from the past. The group should be limited to 6–8 people, depending on clients' level of functioning and needs. The duration of the group is approximately one hour, and usually takes place once a week. This method is contraindicated for clients who have expressive and/or receptive language deficits, do not enjoy reminiscing, find this activity childish (due to the music and/or props used) (Bright, 1997), or become agitated or confused when discussing the past. The main goals for the client(s) are to express opinions and feelings, experience memories through extramusical associations, increase self-esteem and enhance sense of self by remembering personal and historical events, participate in life review, have meaningful interactions with others who have had similar life experiences, increase verbalization through singing and recitation, maintain long-term memory, maintain attending skills, improve mood, and increase cognitive and sensory stimulation. The level of therapy is augmentative.

Preparation. Clients are referred to this group based on needs or interests identified through a music therapy assessment process. The therapist should familiarize herself with the lifestyles and events of the decades in which the group participants were adolescents and young adults (Karras, 1987). Determine a topic prior to session (e.g., weddings, vacations, fashion, pets, etc.). Select music that is relevant to the topic and also likely to be familiar to the group members. Use original recordings, live music, or a combination of both. Prepare questions about the topic that will prompt reminiscence. Gather relevant objects or sensory props (e.g., photographs, old sheet music, scented oils, a variety of percussion instruments, etc.). Secure a private space for the session.

What to observe. Observe interactions between group members to ensure that interactions are supportive and positive. It may be appropriate to seat clients strategically based on personality characteristics. Observe levels and types of participation in order to cue clients as needed and to assess levels of functioning. It may be necessary to remove a client from the group if he is no longer benefiting due to a change in cognitive status (Karras, 1987). It may be appropriate for some clients to be transferred into a Music-Assisted Sensory Stimulation Theme Group (described above under Receptive Methods). Note future ideas for themes that may emerge during group discussions.

Procedures. Have relevant recorded background music playing as clients enter the room. Have clients sit in a circle along with the therapist. When ready to begin, stop the recorded music, welcome clients to the group, and orient them to the topic using words, a musical selection (e.g., an opening song), and/or tactile props. Promote further discussion using music listening, interactive singing, and questions. Acknowledge clients' feelings and provide support if difficult memories emerge. To end the session, thank group members for their participation and sing a closing song. This song may be the same from week to week (to create a sense of group identity), or it may be a song that somehow provides closure to the theme for that session.

Adaptations. Musical games may be used in Music Reminiscence Groups (e.g., "Name that Tune/Vocalist/Musician," "Fill in the Missing Lyrics," "Music Trivia," etc.). Consult Belgrave et al. (2011), Bright (1997), Chavin (1991), Cordrey (1994), Karras (1987), Shaw (1993), and Wenrick (1996) for information on discussion topics, themes, and musical games. Smith (1986) also contains a list of songs and corresponding questions that can be used when facilitating a music reminiscence group.

Other Sources. Ashida, (2000), Chavin (1991), and Karras (1987) suggested/implied various goal areas for this method provided some directions on how to facilitate music reminiscence groups.

Community Music Therapy Performance

Overview. The music therapist facilitates opportunities for clients (individual or group) to experience the joy of performing with and for others in a supportive and accepting environment. The therapeutic focus is on the performance process and not on the performance product in and of itself.

This method is indicated for clients with *mild* to *moderate* dementia who have had past positive experiences with performing and/or who seem to enjoy performance activities (Young & Nicol, 2011). This method is contraindicated for persons who may experience increased anxiety or overstimulation as the result of a performance activity or for persons who are unable to effectively execute a desired level of performance even with adaptations and/or the support of the therapist (Young & Nicol, 2011). The main goals for the client are to rekindle previously enjoyed musical practices, increase feelings of self-worth or validation through the capacity to contribute, increase or maintain one's sense of identity, experience a sense of belonging (to a group and/or community), experience feelings of accomplishment, create a sense of community, change the community environment, and improve relationships with others by highlighting the client's potentials (changes others' perceptions of the client). The level of therapy is augmentative.

Preparation. Each client participates in closed individual and/or group music therapy sessions prior to participating in any open performance activities. This helps the therapist to assess if open performance would be beneficial for a particular client or group and understand the kind of supports or modifications the client(s) might need. The individual client or group should participate in performance-oriented musical experiences during closed therapy contexts before participating in an open performance. For example, a client may assume the role of performing a particular song each week in a closed music therapy group.

Open performances usually occur within the clients' day program or long-term care facility. Audiences are generally limited to facility staff, other long-term-care residents/day program participants, family members, and friends. Open performances may be scheduled ahead of time or they may occur spontaneously during an open music therapy group (such as a Group Sing-Along).

What to observe. Prior to and during a performance, watch for signs of anxiety. Note any positive social behaviors that are generally not otherwise observed in particular individuals. Clients who enjoy performing often exhibit an improved level of social functioning during a performance experience. Other clients, however, may overestimate their own performance abilities or try to dominate a particular performance context. The therapist needs to establish appropriate boundaries and maintain a directive role to ensure that all participants have a successful and rewarding experience.

Procedures. During open music therapy groups or formally scheduled performances, provide clients with structured opportunities to perform. Provide musical or logistical support as needed to ensure that all performances are a successful experience for the performer(s). For example, a client may play a solo on the harmonica while a volunteer holds a microphone and the therapist provides verbal prompts and/or musical accompaniment. An open music therapy group or formal performance may be guided by a theme (e.g., Valentine's Day, a season, etc.). Spontaneous responses may be incorporated into the performance (e.g., stories and songs that emerge). The performance should culminate with a public acknowledgement of each performer and an appropriate closing song/music activity based on the theme.

Adaptations. Individual clients' past musical practices may need to be adjusted to accommodate each client's current level of functioning (e.g., the therapist can open-tune a client's guitar and play along with the client). Staff and family members may participate by performing with clients or by performing on their own (at the discretion of the therapist). Although performances often consist of precomposed music, improvisation may also be employed, depending upon client's needs and musical strengths.

Sources. Powell (2004) was the primary source utilized to compile this method. This material was integrated with information based on the author's knowledge and experience.

Intergenerational Music Therapy Programs

Please see the description contained in Chapter 20. Very little has been written on intergenerational

music therapy programs for persons with dementia. However, research has indicated that the presence of children during structured music activities for persons with dementia appeared to stimulate increased responsiveness and involvement as compared to these same activities when the children were not present (Newman & Ward, 1992–1993). Furthermore, participation in music activities with young children appeared to lower agitation levels (Ward, Kamp, & Newman, 1996). There is potential for further development of specific intergenerational music therapy methods for persons with dementia.

Lyric Analysis

Overview. The music therapist uses lyrics from familiar songs and discussions about those lyrics to convey a positive message to clients or to validate a client's feelings. This method may be one intervention in an individual music therapy session that contains other interventions or it may be used for the duration of a session.

This method is indicated for clients with *mild* to *moderate* dementia who respond constructively to messages or “feeling” words contained in songs. This method is contraindicated for clients who are unable to cognitively process difficult emotions or cannot understand song lyrics due to receptive communication deficits. The main goals for the client are to improve mood, increase self-expression, increased coping skills, reduce anxiety, maintain sense of self, and increase reminiscence. The level of therapy is augmentative.

Preparation. Compile and learn songs that contain words that either convey specific feelings or communicate positive messages. Have these songs ready to use when feelings emerge in sessions or when it is appropriate to communicate a positive message to clients. For clients who are able to read (some lose this ability as their dementia progresses), it may be helpful to have typed copies of lyrics in order to be able to visually refer the client to specific words or phrases.

What to observe. In order to provide validation and the appropriate level of support, carefully observe emotional responses, facial expressions, body language, etc.

Procedures. During an individual session, the music therapist tells the client that she has a song that seems appropriate for the moment. Sing the song for the client and encourage him to sing along or listen carefully. Musically emphasize relevant lines or words. Facilitate a discussion with the client about his feelings and how these may relate to the message or feelings contained in the song, focusing on relevant lines or words and providing verbal cues/structure as needed. If appropriate, the therapist and the client may finish the activity by singing the song together (may be sung more than once).

Adaptations. The client may choose to change the lyrics of the song to better suit his feelings or perspectives (see Lyric Substitution in the Compositional Methods section below). This activity may be adapted for a group session, although it may be more appropriate to focus on positive messages rather than complex emotions, as it may be difficult to effectively facilitate this type of conversation with several clients who have diverse needs due to dementia.

Source. Belgrave et al. (2011) suggested some goal areas for this method and provided some directions on how to facilitate a lyric analysis intervention (“Lyric Analysis for Depression” p. 49).

Playing a Familiar (Known) Instrument

Overview. The music therapist provides the client (who is also a musician) with resources and/or support needed to play a known musical instrument. The therapeutic focus is on the enjoyment and sense of fulfillment that the client receives from participation in a familiar musical practice rather than on the quality of the musical product per se.

This intervention is indicated for clients with *mild to moderate* dementia who have maintained at least some of their personal musical knowledge/skills and who enjoy participating in this activity. This method is contraindicated for clients who are no longer able to play their instrument at a level that is personally satisfying or who may become upset by a realization that their musical abilities have deteriorated (if this is the case). This realization could also occur repeatedly from session to session if the client cannot retain this information. Music therapy in general may be contraindicated for these clients if the music therapy context consistently triggers a strong sense of musical loss that is unable to be resolved. The main goals for the client are to rekindle or maintain a previously enjoyed musical skill or practice; maintain a sense of musical and/or personal identity; form a musical relationship with another musician (the music therapist); and experience feelings of accomplishment, confidence, and self-esteem. The level of therapy is augmentative but could also be considered intensive depending upon how the therapy process unfolds and the needs that are being addressed by the intervention.

Preparation. Interview the client (may be part of a music therapy assessment process) and/or spouse/loved one about the client's past musical practices and assess the client's desire and potential ability to play a preferred instrument. Investigate logistical issues such as access to the preferred instrument and storage. Secure a private space where the sessions can take place. If everything seems feasible, arrange for a time to meet with the client to assess his ability to play his preferred instrument. It would be helpful for the therapist to find out about particular musical selections that the client used to play and have this available in some way at the session (e.g., scores or recordings). If the therapist has limited knowledge of the client's preferred instrument, it would also be helpful for her to look up some practical information (e.g., tuning, playing techniques, instrument maintenance, etc.) and listen to some recorded examples prior to the first session.

What to observe. Observe the ways in which the client plays or manipulates the instrument and provide support (cues or encouragement) as needed. Watch for signs of frustration or distress. If difficulties cannot be rectified, end the session or move on to another activity.

Procedures. If the client is able to play the instrument to his satisfaction, arrange for him to have weekly individual sessions. This provides the client with the motivation, structure, and musical context needed to sustain this practice. The therapist may participate in the musical experiences by playing a similar or different instrument along with the client. If appropriate, the therapist and client may assume "soloist" and/or "accompanist" roles. Ultimately, structure each session to ensure that the individual has a satisfying experience with his chosen musical instrument. If appropriate, the client may want to participate in a Community Music Therapy Performance (as described above).

Adaptations. If it is amenable to the client, the therapist may be able to adapt an instrument to meet the client's current abilities (e.g., open-tune a guitar). Some clients may be willing to try other (more accessible) instruments if they are unable to play their primary instrument. In some cases, it may be possible to have dyad sessions with two clients who are musicians if their skills and personalities complement one another. Adaptations may need to occur over time as the client's dementia progresses. If the client is no longer able to participate in this type of session, the music therapist may be able to implement another kind of music therapy intervention that will better meet his current needs. The client may be able to transition effectively to a new type of intervention not only because of his musical interest but also because of the musical relationship/bond that he has formed with the therapist.

GUIDELINES FOR COMPOSITIONAL MUSIC THERAPY

Group Songwriting

Overview. The music therapist helps clients with mild to moderate dementia to create song lyrics related to a relevant theme. This method may be used as the main intervention in a small group session (4–6 participants if working alone) for an approximate total duration of 30–60 minutes. This method is indicated for clients who are isolated and would benefit from interactive experiences that involve music and discussion. This method is contraindicated for persons who have expressive and/or receptive language difficulties or for those who have difficulties with focus/concentration/orientation in this context. The main goals for clients are to increase social interaction and awareness of others, increase feelings of belonging/community, increase self-expression and self-awareness, maintain communication skills, focus attention on a “here-and-now” context/activity, and improve mood. The level of therapy is augmentative.

Preparation. Clients are referred to this group based on needs and potentials identified through a music therapy assessment process. A consistent opening and closing music therapy intervention should be planned in conjunction with this method for each session. This provides a sense of predictable structure and orients clients to the context. The therapist may prepare a predetermined theme for each session (e.g., based on a season, a holiday, etc.) or she may allow the theme to emerge from the group discussion. Either way, she needs to have several musical ideas in mind (or prepared) that can be used immediately as a structure for the song lyrics.

What to observe. Notice clients who do not participate in the discussion and/or who appear to have trouble focusing on the discussion topic. Provide structured opportunities (verbal cues, questions, choices, etc.) for these clients to contribute and/or stay focused on the activity.

Procedures. Arrange participants in a semicircle (seated) facing a flip chart or whiteboard. Orient participants to the context with an opening song. Rather than tell clients that they are going to write a song, engage clients in either an open discussion that leads to a theme or a discussion that involves a predetermined theme. Write down ideas (on a personal notepad) that pertain to the theme as the discussion progresses. Tell the clients that their ideas can be made into a song. The therapist may sing one line to provide a tangible example. Ask clients for ideas on what kind of music might best fit the theme, giving concrete examples of musical concepts [e.g., fast, slow, happy (major), sad (minor), pre-existing melody, etc.]. If this is too confusing for clients, the therapist may independently decide on a musical structure that best reflects the theme. Take the ideas that emerged from the discussion and write them on the flip chart/white board, adjusting the text to fit the musical structure. Sing the song to the participants, encouraging them to sing along using various cues and techniques (lining out, pointing to the lyrics, etc.). Ask the participants if they have suggestions for improvement and, if possible, incorporate these into the song. Provide clients with choices, such as adding some percussion instruments or sound effects that reflect the theme. The whole song should be sung (at least once), and this may or may not be used as the closing activity for the session. Given the memory difficulties of these clients, the song needs to be completed in one session in order for the participants to experience the intervention as a complete process. However, the song may be used again in future sessions for a variety of therapeutic purposes.

Adaptations. This method can be adapted for use in individual sessions. Lyrics could be organized into a poem (rather than a song) that is read by group members and/or the therapist while thematic instrumental music is played in the background (live or recorded) (Silber & Hes, 1995). A lyric substitution method can also be used in which new words are substituted for the original words of a familiar song (Chavin, 1991) (e.g., use the tune of “My Favorite Things” from the movie musical *The*

Sound of Music). However, some clients find lyric substitution confusing and will revert back to the original lyrics when singing the song.

Other Sources. Belgrave et al. (2011, p. 48 & p. 50) and Silber and Hes (1995) were the primary sources utilized to compile this method. This material was combined and integrated with information based on the author's own knowledge and experience.

Recorded Music Collages

Overview. The music therapist compiles and arranges a collage (collection) of music recordings that are significant or meaningful for the client. This may include recordings of live music from the client's own music therapy sessions, commercially recorded selections, or a combination of both.

This method is indicated for clients with *mild to moderate* dementia who have strong musical associations. This method is contraindicated for clients who are not interested in this process, are unable to participate due to cognitive deficits, or have abreactive responses to music that trigger associations with past trauma (e.g., war, death of a loved one, a painful separation, abuse, etc.). The main goals for the client are to participate in a life review process, increase cognitive stimulation, maintain a sense of identity, increase creative self-expression, increase self-esteem, and create a forum for interaction with loved ones. The level of therapy is usually augmentative but could also occur at the intensive or primary level if the client's treatment goals are palliative.

Preparation. This method generally emerges out of interactions that the music therapist has had with the client in individual music therapy sessions. The music therapist needs to have the necessary recording equipment and computer software to create the final product (CD or audio file). If live music from music therapy sessions is being used as part of the recorded collage, ensure that the necessary written consent is obtained. Copyright laws also need to be considered when using commercially recorded music as part of this method.

What to observe. During individual music therapy sessions, notice musical selections or music experiences that appear to be particularly meaningful for the client. If possible, facilitate discussions with the client about the relevance of these meaningful moments and assess the potential therapeutic benefits of making a recorded music collage.

Procedures. The therapist works with the client to determine the content and order of the musical selections to be contained in the collage. This may include favorite musical selections of the client or musical selections that in some way represent meaningful moments, events, or stages in a client's life (i.e., a musical autobiography—see Music-Assisted Life Review in Receptive Methods. Record live renditions, listen to relevant commercial recordings, and/or facilitate discussions. Although this method would normally be implemented with persons who have *mild to moderate* dementia, the recorded music collage and the knowledge gained from the process may be used to aid in facilitating music therapy sessions as the client's dementia continues to progress.

Adaptations. A recorded music collage may be made for loved ones as a legacy gift from the client (Belgrave et al., 2011; Patrick & Avins, 2005). The music therapist may also provide family members or caregivers with a recorded music collage that is tailored specifically to suit the needs and preferences of the client (Clair & Memmott, 2008). The purpose of this recording would be to facilitate meaningful, shared experiences. Recorded music collages may also be made using a video format. Note: Wigram and Grocke (2007) used the term "individual music collage" (p.200) for a method where the client uses pictures from magazines to create an artistic collage with the support of the therapist while listening to preferred recorded music. This is a receptive rather than a compositional method. The authors also indicated that although this method may be helpful for some clients with dementia, it is contraindicated for those who are not constructively stimulated by visual images and/or become confused by the activity.

WORKING WITH CAREGIVERS

As noted in the methods described above, family caregivers often participate in their loved one's music therapy sessions. This may not only enhance the session for the client, but also be a positive experience for family members as they interact with their loved one through musical media in meaningful ways. Music therapists may also provide music interventions during caregiving activities, which may help to facilitate the caregiving process and/or make the experience more positive for both the family/professional caregivers and the care recipient.

As persons with dementia tend to respond strongly to music in general, it can be helpful for the music therapist to teach individually tailored music techniques to both family and professional caregivers. These techniques may be used to enhance the caregiver/care recipient relationship, facilitate cooperation with ADL, and/or improve the day-to-day quality of life for persons with dementia. It is beyond the scope of this chapter to describe specific techniques in detail, but the literature contains many resources and further discussions on this topic (see Brotons & Marti, 2003; Brown, Götell, & Ekman, 2001a, 2001b; Chatterton, Baker, & Morgan, 2010; Clair, 2002a, 2002b, 2002c; Clair & Ebberts, 1997; Clair et al., 2005; Clair and Memmott, 2008; Clair, Tebb, & Bernstein, 1993; Engström, Hammar, Williams, & Götell, 2011; Gardner, 1999; Gerdner, 2005; Götell, Brown, & Ekman 2000, 2002, 2003, 2009; Götell, Thunborg, Söderlund, & von Heideken Wågert, 2012; Hammar, Emami, Engström, & Götell, 2011a, 2011b; Hammar, Götell, Emami, & Engström, 2011; Hammar, Götell, & Engström, 2011; Hanser, Butterfield-Whitcomb, & Kawata, 2011; Hanser & Clair, 1995; Matthews & Kosloski, 2000; Rio, 2009; Thomas, Heitman, & Alexander, 1997).

It is important to note that although these techniques may be beneficial, they are not music therapy per se nor do they replace the need for a music therapist. Music therapists understand the clinical applications of music (which are far more diverse and require more skill and knowledge than most people realize) as well contraindications for the use of music. These contraindications are especially important to consider when working with a vulnerable population that may have increased sensitivity to sound stimulation, may not be able to clearly communicate when music/sound is having a negative impact, and/or may become immune to the positive effects of music if it is overused. It is also the current author's experience that caregivers (both professional and family) often need help in understanding that the ways in which they perceive music to be helpful may or may not be helpful for another person. Music therapists can ensure that caregivers are using music in a constructive way for particular individuals, and they can personally provide skillfully executed clinical music therapy interventions that are adjusted over time (or in the moment) to help alleviate various symptoms/consequences of dementia. Instead of seeing music therapy as an additional expense, one could argue that a professionally designed music program for persons with dementia that includes clinical music therapy and consultation with music therapists as core components could increase efficiency. Used in this manner, music could possibly facilitate the caregiving process, prevent the need for more time-consuming interventions, and reduce costs (e.g., through less need for medications). More research is needed to investigate the potential cost-effectiveness and efficiency outcomes of comprehensive music therapy-based programs in dementia care.

Overview on Music Therapy for Caregivers of Persons with Dementia

More than 15 million Americans provide unpaid care for persons with AD or other dementias; this includes immediate family, other relatives, friends, etc. (Alzheimer's Association, 2012). Family caregivers may experience high levels of personal and financial stress, which in turn may have negative impacts on health and well-being. "Signs of caregiver distress include increased anger, social withdrawal, anxiety, depression, exhaustion, sleeplessness, irritability, poor concentration, increased health problems, and

denial” (American Psychiatric Association, 2010, p. 23). Professional caregivers of persons with dementia can also experience significant levels of stress and burnout as they deal with challenging client behaviors, physical demands of their job, staffing shortages, high staff turnover rates, a perceived lack of workplace support, and complex interactions with family members (Duffy, Oyebode, & Allen, 2009; Mackenzie & Peragine, 2003; Todd & Watts, 2005). It can also be the case that some of these professionals have received little to no training in issues specific to dementia care, which can also lead to increased feelings of stress and frustration. As noted above, there is a growing amount of literature on teaching caregivers how to use music for persons with dementia and increased involvement of caregivers in clients’ music therapy sessions, which may also have benefits for the caregivers themselves (Clair & Ebberts, 1997; Hanser, Butterfield-Whitcomb, & Kawata, 2011). However, there is a limited amount of literature on how music therapy may be used to more directly address the caregivers’ needs. The following two sections provide a brief summary of what is known about music therapy intervention for family and professional caregivers of persons with dementia.

Family Caregivers

Two studies were found which describe music therapy interventions for family caregivers alone. A pilot study conducted by Brotons and Marti (2003) contained three conditions: (a) seven group music therapy sessions for persons with dementia and their family caregivers, (b) 10 group music therapy sessions for persons with dementia without their family caregivers, and (c) four group music therapy sessions for the caregivers alone. Interventions in the “caregivers alone” condition included singing, music listening, music relaxation exercises, musical games, and songwriting. No significant results were found using the *Caregiver Burden Questionnaire* and the *Beck Depression Scale*. However, the posttest mean scores on the *State Trait Anxiety Inventory (STAI-S)* were significantly lower than the pretest scores, indicating a reduction in anxiety immediately after the project and also two months after the project began. Furthermore, all participants indicated that the “caregivers alone” sessions helped them to relax and “66.7% indicated that it offered them a pleasant and enjoyable space where they could share and express feelings that [they] had not been able to express before” (Brotons & Marti, 2003, p. 144). In a study conducted by Klein and Silverman (2012), a songwriting intervention (one 45-minute session) and a psychoeducational discussion (one 45-minute session) were compared as methods for teaching self-care to family caregivers of persons with dementia. Analysis of participants’ written feedback indicated that both interventions yielded positive results. However, themes related to “fun” and “appreciation” were present in the songwriting condition only. In both of these studies, the sample sizes were small and the duration of the intervention period was limited. More research is needed to better understand the ways in which music therapy intervention can most effectively address the unique needs of family caregivers of persons with dementia.

Professional Caregivers

Professional caregivers of persons with dementia include a wide spectrum of health care workers (nurses, allied health, mental health professionals, health care aides, etc.). For reasons noted above, stress levels and burnout among these individuals can be quite high. Research has also indicated that staff burnout in dementia care may also be associated with low optimism, negative emotional responses to behavior, and low self-efficacy (Duffy, Oyebode, & Allen, 2009; Mackenzie & Peragine, 2003; Todd & Watts, 2005). Other publications suggest that staff may receive some respite or inadvertent aesthetic benefit from clients’ participation in music therapy—which in turn may help to decrease staff burnout (Olderog-Millard & Smith, 1989). However, very little has been written on the use of music therapy intervention to directly

address the needs of professional caregivers of persons with dementia. A study by Bittman, Bruhn, Stevens, Westengard, and Umbach (2003) found that a six-session re-creational music-making protocol that focused on building support, communication, and interdisciplinary respect had a statistically significant positive impact on burnout and mood dimensions of the participants—all of whom worked in long-term care. Presumably, some of these participants were working in dementia care. The authors also projected that the implementation of this type of program would result in less staff turnover and subsequent cost savings. Results of an exploratory pilot program for staff members who worked on a dementia unit indicated that music relaxation techniques had a positive impact on participants' perceived levels of relaxation (McCarthy, 1992). More research is needed to better understand how music therapy intervention may be used to address the unique needs of professionals who work in dementia care.

For music therapists and other mental health professionals, it should also be noted that professional supervision provided by a music therapist could also be a helpful means of support. Although it is not music therapy, music may be utilized in these supervision sessions to facilitate insight and professional growth, which in turn may result in reduced stress and prevention of burnout.

RESEARCH EVIDENCE

Based on the literature, popular media, and the current author's personal experience, the past 20 years has seen a growing widespread public recognition that music can be used to help persons with dementia. Documentaries, television shows, news articles, and textbooks on the subject of dementia invariably make positive claims about the use of music in some way. However, it is often the case that little differentiation is made between the use of music for enjoyment and the clinical use of music to alleviate the symptoms of dementia (i.e., music therapy). Furthermore, adaptations or contraindications for the use of music with this population are rarely acknowledged. It is the current author's opinion that the dissemination and application of methodologically sound music therapy research (qualitative and quantitative) is one way to effectively promote increased understanding of the role and need for evidence-based music therapy intervention in dementia care.

The literature contains *many* studies that explore the efficacy of music therapy with persons who have dementia. (Please see Chapter 2 in Belgrave et al., 2011, for a concise review of music therapy research pertaining to therapeutic outcomes with this clinical population.) However, various methodological issues have limited the generalizability or transferability of these results. Researchers have attempted to organize and analyze this diverse body of music therapy research through literature reviews, systematic reviews, and/or meta analyses (Brotons, Koger, & Pickett-Cooper, 1997; Dileo & Bradt, 2005; Koger, Chapin, & Brotons, 1999; McDermott, Crellin, Ridder, & Orrell, 2012; Nugent, 2002; Raglio et al., 2012; Sherratt, Thornton, & Hatton, 2004; Ueda, Suzukamo, Sato, & Izumi (2013, in press); Vink, 2000; Vink, Bruinsma, & Scholten, 2011). Although some of these reviews have indicated positive effects (e.g., that music therapy may help persons with dementia to maintain or improve cognitive skills; decrease behaviors related to anxiety, agitation, and aggression; improve psychosocial and emotional functioning; maintain language skills; increase active engagement; decrease isolation; improve social interaction; and improve quality of relationship with caregivers), these results must be interpreted with caution due to methodological limitations of the studies that were included in the analyses. Furthermore, there is a limited amount of research that explores the efficacy of specific methods or interventions.

A systematic review was conducted through the Cochrane Collaboration "to assess the effects of music therapy in the treatment of behavioral, social, cognitive, and emotional problems of older people with dementia, in relation to the type of music therapy intervention" (Vink et al., 2011, p. 2). (Cochrane Reviews report the combined results of high-quality research studies and are recognized by many as the gold standard in evidence-based health care.) Only 10 studies (Randomized Controlled Trials, or RCTs)

met the criteria for inclusion in the analysis. The researchers concluded that “the methodological quality of the studies was generally poor and the study results could not be validated or pooled for further analyses” (p. 2). Therefore, this review provided no evidence to support or refute the use of music therapy with persons who have dementia. However, other researchers have argued that controlled trials (CTs) should have been included in the Cochrane analysis, as this research design is often used in music therapy (Ueda et al., 2013, in press). These researchers conducted a systematic review and meta-analysis that included both RCTs and CTs to evaluate the effect of music therapy on behavioral and psychological symptoms of dementia (BPSD), activities of daily living (ADL), and cognitive function in patients with dementia. Additionally, they investigated the differences in effect size based on the kinds of interventions, the type of disease, and the intervention period. The results indicated that music therapy had moderate effects on anxiety and small effects on behavioral symptoms. In studies that were less than three months in duration, music therapy had large effects on anxiety. However, almost all studies included in the analysis used a combination of methods (such as singing, playing musical instruments, and/or listening to live music), thus making it virtually impossible to determine the effectiveness of specific interventions or methods. Furthermore, professional music therapists were not always involved in the intervention protocols, leading one to question if certain studies should have been included in the analysis.

Although standardized systematic reviews and quantitative meta-analyses can provide important information, they exclude qualitative research that may also contain relevant evidence. A systematic qualitative literature review conducted by Ridder (2005) examined the clinical music therapeutic strategies used for persons with dementia contained in 92 studies (various paradigms) published between 1980 and August 2004. As in the current chapter, she attempted to create generalized descriptions of interventions. Ultimately, she identified 17 different therapeutic initiatives, although procedures on how to execute these initiatives are not described in detail. However, she created four categories to describe the functions of music within the identified therapeutic initiatives. These included: (a) Evaluative—the use of music initiatives for assessment purposes, (b) Regulative—musical elements are used to change behavior or mood, (c) Stimulative—music is used to motivate and engage clients for the purpose of maintaining various domains of functioning, and (d) Communicative—initiatives focus on the “whole” person and take psychosocial, emotional, and cultural needs into account. Various receptive, improvisational, re-creative, and compositional initiatives were contained in each category. However, limitations of the studies included in the review—including lack of information with regard to the type of music intervention being used and the exact purpose of specific music initiatives—made it difficult to draw definitive conclusions about the effectiveness of particular methods or interventions.

In order to explore the “mechanisms” of music therapy interventions used in dementia care, McDermott et al. (2012) conducted a narrative synthesis (NS) systematic review. This involved a systematic evaluation of both process-based and outcome-based music therapy studies using four interactive elements: (a) theory development, (b) preliminary synthesis of findings, (c) exploration of relationships between studies, and (d) assessment of the robustness of the synthesis (p. 2). Only 18 studies (15 quantitative and three qualitative/mixed methods) out of 263 potentially relevant titles identified in the initial search met the full inclusion criteria (refer to the article for a complete description of these criteria). Although some evidence was found to support short-term improvements in behavioral and psychological disturbances as a result of music therapy interventions, it was not possible to attribute these positive results to a particular method or intervention. Singing (which may be used as a receptive, improvisational, and/or re-creative method) was employed in seven of the studies. “However, it was not possible to consolidate enough evidence to develop a new theory because of the heterogeneity of the musical interventions of different qualities, the diversity of research designs, and the limited explanations of the study findings and clinical implications” (p. 12). Chatterton et al. (2010) also examined the use of individual singing (receptive method) for persons who have dementia through a systematic review of the literature (*note*: Inclusion criteria for the studies were far less stringent than in the McDermott et al.,

2012, study). The “singers” in the studies included music therapists, nurses/other professional caregivers, and family members. Overall, results indicated that individual singing for persons with dementia can improve their quality of life, regardless of the qualifications of the singer. However, the authors also concluded that the effectiveness of individual singing interventions likely depends on the goals of the person providing the intervention and on the perceptions of the client. Goals employed by music therapists were specific and addressed cognitive, behavioral, and social areas, whereas goals of other professional or family caregivers were general and focused on building connections and improving the caregiving experience. The authors recommended that music therapists focus some of their efforts on empowering professional and nonprofessional caregivers to sing to persons with dementia, thereby multiplying the benefits music can bring.

In spite of a relatively large body of research on music therapy and dementia, there is limited satisfactory evidence on the efficacy of specific music therapy methods or interventions for persons with dementia. Based on recommendations from the reviews outlined above and on the present author's perspectives, the following points should be considered when one is conducting research on music therapy in dementia care: (a) the type and stage of dementia must be identified, (b) the specific needs being addressed by the method or intervention and/or the purpose of the must be clearly stated, (c) the protocol and/or the type of music therapy method or intervention used must be clearly identified and described (see also Ridder, Wigram, & Ottsen, 2009), (d) the research methodology employed should be the best “fit” for the method/intervention/research question being investigated, (e) in quantitative research, reliable and valid measurement tools that are relevant for the clinical population should be used [also, check the reliability of the measures used in relation to each study's sample (e.g., Cronbach's alphas)], (f) adhere to high-quality reporting standards (e.g., for quantitative research, report all necessary statistics; for qualitative research, clearly outline the researcher's epistemological stance), (g) use longitudinal research designs and/or mixed-method designs when logistically feasible and methodologically appropriate (see also Ledger & Baker, 2005), and (h) contraindications or negative outcomes related to music therapy intervention for persons with dementia must also be investigated and reported.

SUMMARY AND CONCLUSIONS

Dementia is not a disease but a term used to indicate a range of symptoms associated with a decline in memory and other cognitive skills, which in turn affects one's ability to perform the activities of daily living. Persons with dementia display a wide range of cognitive impairments and other symptoms that can cause significant stress to themselves and caregivers. However, areas of the brain associated with musical functioning are very often preserved in persons with dementia. Therefore, music therapists are in a unique position to provide theoretically informed and skillfully designed music programs and interventions that address the complex needs of persons with dementia. A variety of receptive, improvisational, re-creative, and compositional music therapy methods and interventions may be used to highlight potentials and address a diverse spectrum of needs of persons with dementia. Family members and professional or volunteer caregivers may also participate in the client's music therapy sessions. In some cases, the music therapist may instruct family members, volunteers, and/or professional caregivers on how to apply particular music techniques or principles. Family members and professional caregivers may themselves benefit from music therapy interventions designed to meet their own unique needs. Although a substantial amount of research and anecdotal literature contains positive results with regard to the efficacy of music therapy for persons with dementia, these results must be interpreted with caution due to a number of limitations. Methodologically sound qualitative and quantitative research is needed in order to draw more definitive conclusions about the effectiveness of particular music therapy

methods/interventions for this clinical population as well as to expand perspectives on the role of music therapy in dementia care.

The current author was inspired to enter the field of music therapy over 20 years ago due in large part to experiences that she had with this population as a university music student. My subsequent clinical, educational, research, teaching, and life experiences have served to strengthen my commitment and belief in the necessity of advocating for high-quality music therapy services for persons with dementia. Music therapy is not a frill—it is a lifeline to these individuals' dignity and surviving sense of self.

REFERENCES

- Ahonen-Eerikainen, H., Rippin, K., Sibille, N., Koch, R., & Dalby, D. M. (2007). "Not bad for an 85-year-old!" The qualitative analysis of the role of music, therapeutic benefits and group therapeutic factors of the St. Joseph's Alzheimer's adult day program music therapy group. *Canadian Journal of Music Therapy, 13*(2), 37–62.
- Aldridge, D. (1998). Music therapy and the treatment of Alzheimer's disease. *Journal of Clinical Geropsychology, 4*(1), 17–30.
- Aldridge, D. (2007). Dining rituals and music. *Music Therapy Today, 8*(1) 26–38. Retrieved from <http://www.wfnt.info/Musictherapyworld/>
- Aldridge, D., & Aldridge, G. (1992). Two epistemologies: Music therapy and medicine in the treatment of dementia. *The Arts in Psychotherapy, 19*(4), 243–255.
- Aldridge, D., & Brandt, G. (1991). Music therapy and Alzheimer's disease. *British Journal of Music Therapy, 5*(2), 28–37.
- Aldridge, G. (2000). Improvisation as an assessment of potential in early Alzheimer's Disease. In D. Aldridge (Ed.), *Music therapy in dementia care* (pp. 139–165). Philadelphia, PA: Jessica Kingsley.
- Alzheimer's Association. (2012, July 31). What is dementia? [Website]. Retrieved from <http://www.alz.org/what-is-dementia.asp>
- Alzheimer's Association. (2012, August 1). Mixed dementia. [Website]. Retrieved from <http://www.alz.org/dementia/mixed-dementia-symptoms.asp>
- Alzheimer's Association. (2012). Alzheimer's disease facts and figures. *Alzheimer's and Dementia, 8*, 131–168.
- Alzheimer's Society. (2013, March 31). Supporting lesbian, gay and bisexual people with dementia. [Website]. Retrieved from http://www.alzheimers.org.uk/site/scripts/documents_info.php?documentID=1100
- American Music Therapy Association. (2012). *2012 AMTA Member Survey & Workforce Analysis*. Silver Spring, MD: American Music Therapy Association.
- American Psychiatric Association (APA). (2000). *Diagnostic and statistical manual of mental disorders—Text revision* (4th ed.). (DSM-IV-TR). Arlington, VA: Author.
- American Psychiatric Association. (2010). Practice guidelines for the treatment of patients with Alzheimer's Disease and other dementias (2nd ed.). Retrieved from <http://psychiatryonline.org/guidelines.aspx>
- American Psychiatric Association. (2012, July 1). Neurocognitive disorders. In DSM-5 Development. [Website]. Subject to change. Retrieved from <http://www.dsm5.org/proposedrevision/Pages/NeurocognitiveDisorders.aspx>
- American Psychological Association. (2013, January 30). Cohen-Mansfield Agitation Inventory. [Website]. Retrieved from <http://www.apa.org/pi/about/publications/caregivers/practice-settings/assessment/tools/cohen-mansfield.aspx>

- Arrighi, H. M., Neumann, P. J., Lieberburg, I. M., & Townsend, R. J. (2010). Lethality of Alzheimer disease and its impact on nursing home placement. *Alzheimer Disease and Associated Disorders*, 24, 90–95.
- Ashida, S. (2000). The effect of reminiscence music therapy sessions on changes in depressive symptoms in elderly persons with dementia. *Journal of Music Therapy*, 37(3), 170–182.
- Auer, S. R., Sclan, S. G., Yaffee, R. A., & Reisberg, B. (1994). The neglected half of Alzheimer disease: Cognitive and functional concomitants of severe dementia. *Journal of the American Geriatrics Society*, 42, 1266–1272.
- Baird, A., & Samson, S. (2009). Memory for Music in Alzheimer's Disease: Unforgettable? *Neuropsychology Review*, 19, 85–101.
- Beatty, W. W., Rogers, C. L., Rogers, R. L., English, S., Testa, J. A., Orbelo, D. M., Wilson, D. A., & Ross, E. D. (1999). Piano playing in Alzheimer's disease: Longitudinal study of a single case. *Neurocase*, 5, 459–469.
- Belgrave, M. (2009). The effect of expressive and instrumental touch on the behavior states of older adults with late-stage dementia of the Alzheimer's type and on music therapist's perceived rapport. *Journal of Music Therapy*, 46(2), 132–146.
- Belgrave, M., Darrow, A. A., Walworth, D., & Wlodarczyk, N. (2011). *Music therapy and geriatric populations: A handbook for practicing music therapists and healthcare professionals*. Silver Spring, MD: American Music Therapy Association.
- Bittman, B., Bruhn, K. T., Stevens, C., Westengard, J., & Umbach, P. O. (2003). Recreational music-making: A cost-effective group interdisciplinary strategy for reducing burnout and improving mood states in long-term care workers. *Advances in Mind-Body Medicine*, 19(3–4), 4–15.
- Bolton, C. (2012). Using music and singing within speech & language therapy to improve clients' communication skills. Retrieved from www.wcmt.org.uk/reports/995_1.pdf
- Bright, R. (1997). *Music therapy and the dementias: Improving the quality of life* (2nd ed.). St. Louis, MO: MMB Music.
- Brookmeyer, R., Corrada, M. M., Curriero, F. C., & Kawas, C. (2002). Survival following a diagnosis of Alzheimer disease. *Archives of Neurology*, 59, 1764–1767.
- Brotos, M., Koger, S. M., & Pickett-Cooper, P. (1997). Music and dementias: A review of literature. *Journal of Music Therapy*, 34(4), 204–245.
- Brotos, M., & Marti, P. (2003). Music therapy with Alzheimer's patients and their family caregivers: A pilot project. *Journal of Music Therapy*, 40(2), 138–150.
- Brown, S., Götell, E., & Ekman, S.-L. (2001a). Singing as a therapeutic intervention in dementia care. *The Journal of Dementia Care*, 9(4), 33–37.
- Brown, S., Götell, E., & Ekman, S.-L. (2001b). Music-therapeutic caregiving: The necessity of active music-making in clinical care. *The Arts in Psychotherapy*, 28(2), 125–135.
- Campbell, T., & Young, L. (November, 2010). Sound advice: Perspectives on creating healthier sound environments for our clients. Poster session presented at the 6th Annual Research Education and Innovation Day. Toronto, ON: St. Michael's Hospital.
- Centers for Disease Control and Prevention. (2012, October 1). Workplace safety and health topics: Healthcare workers. [Website]. Retrieved from <http://www.cdc.gov/niosh/topics/healthcare/>
- Cevasco, A. M., & Grant, R. E. (2003). Comparison of different methods for eliciting exercise-to-music for clients with Alzheimer's disease. *Journal of Music Therapy*, 40(1), 41–56.
- Cevasco, A. M., & Grant, R. E. (2006). Value of musical instruments used by the therapist to elicit responses from individuals in various stages of Alzheimer's disease. *Journal of Music Therapy*, 43(3), 226–246.
- Chang, F., Huang, H., Lin, K., & Lin, L. (2010). The effect of a music programme during lunchtime on the problem behaviour of the older residents with dementia at an institution in Taiwan. *Journal of*

- Clinical Nursing*, 19(7/8), 939–948.
- Chatterton, W., Baker, F., & Morgan, K. (2010). The singer or the singing? A systematic literature review of the effectiveness of different individuals singing to persons with dementia. *American Journal of Alzheimer's Disease and Other Dementias*, 25(8), 641–649.
- Chavin, M. (1991). *The lost chord: Reaching the person with dementia through the power of music*. Mount Airy, MD: ElderSong.
- Christie, M. E. (1995). The influence of a highly participatory peer on motivating group behaviors of lower functioning persons who have probable Alzheimer's type dementia: A feasibility study. *Music Therapy Perspectives*, 13(2), 87–90.
- Clair, A. A. (1996). The effect of singing on alert responses in persons with late stage dementia. *Journal of Music Therapy*, 33(4), 234–247.
- Clair, A. A. (2000). The importance of singing with elderly patients. In D. Aldridge (Ed.), *Music therapy in dementia care* (pp. 81–101). Philadelphia, PA: Jessica Kingsley.
- Clair, A. A. (2002a). Dance for emotional intimacy: Simple one-to-one interventions for family caregivers with loved ones in late-state dementia. *Activities Director's Quarterly for Alzheimer's and Other Dementia Patients*, 3(3), 33–41.
- Clair, A. A. (2002b). The effects of music therapy on engagement in family caregiver and care receiver couples with dementia. *American Journal of Alzheimer's Disease and Other Dementias*, 17(5), 286–290.
- Clair, A. A. (2002c). Practical ways to use music to manage agitated behaviors in late-stage dementia. *Activities Director's Quarterly for Alzheimer's and Other Dementia Patients*, 3(1), 41–48.
- Clair, A. A., & Bernstein, B. (1990). A comparison of singing, vibrotactile and nonvibrotactile instrumental playing responses in severely regressed persons with dementia of the Alzheimer's type. *Journal of Music Therapy*, 27(3), 119–125.
- Clair, A. A., & Bernstein, B. (1993). The preference for vibrotactile versus auditory stimuli in severely regressed persons with dementia of the Alzheimer's type compared to those with dementia due to alcohol abuse. *Music Therapy Perspectives*, 11(1), 24–27.
- Clair, A. A., Bernstein, B., & Johnson, G. (1995). Rhythm playing characteristics in persons with severe dementia including those with probable Alzheimer's type. *Journal of Music Therapy*, 32(2), 113–131.
- Clair, A. A., & Ebberts, A. (1997). The effects of music therapy on interactions between family caregivers and their care receivers with late stage dementia. *Journal of Music Therapy*, 34(3), 148–164.
- Clair, A. A., Mathews, R. M., & Kosloski, K. (2005). Assessment of active music participation as an indication of subsequent music making engagement for persons with midstage dementia. *American Journal of Alzheimer's Disease and Other Dementias*, 20(1), 37–40.
- Clair, A. A., & Memmott, J. (2008). *Therapeutic Uses of Music with Older Adults* (2nd ed.), Silver Spring, MD: American Music Therapy Association.
- Clair, A. A., Tebb, S., & Bernstein, B. (1993). The effects of a socialization and music therapy intervention on self-esteem and loneliness in spouse caregivers of those diagnosed with dementia of the Alzheimer type: A pilot study. *American Journal of Alzheimer's Disease and Other Dementias*, 8, 24–32.
- Clement-Cortés, A. (2013). Palliative/Hospice Care. In J. Allen (Ed.) *Guidelines for music therapy practice in adult medical care*, Volume 4. Gilsum, NH: Barcelona Publishers.
- Cohen, A., Bailey, B., & Nilsson, T. (2002). The importance of music to seniors. *Psychomusicology*, 18, 89–102.
- Cordrey, C. (1994). *Hidden treasures. Music and memory activities for people with Alzheimer's*. Mt. Airy, MD: ElderSong Publications.

- Crystal, H., Grober, E., & Masur, D. (1989). Preservation of music memory in Alzheimer's disease. *Journal of Neurology, Neurosurgery, & Psychiatry*, 52(12), 1415–1416.
- Cuddy, L. L., Duffin, J. M., Gill, S. S., Brown, C. L., Sikka, R., & Vanstone, A. D. (2012). Memory for melodies and lyrics in Alzheimer's disease. *Music Perception*, 29(5), 479–491.
- Darnley-Smith, R. (2002). *Music therapy with elderly adults*. In A. Davies & E. Richards (Eds.), *Music therapy and group work: Sound company* (pp. 77–89). Philadelphia, PA: Jessica Kingsley.
- Dileo, C., & Bradt, J. (1999). Entrainment, resonance and pain-related suffering. In C. Dileo (Ed.), *Music Therapy and Medicine: Clinical and Theoretical Applications*. Silver Spring, MD: American Music Therapy Association.
- Dileo, C., & Bradt, J. (2005). *Medical music therapy: A meta-analysis of the literature and an agenda for future research*. Cherry Hill, NJ: Jeffrey Books.
- Duffy, B., Oyeboode, J. R., & Allen, J. (2009). Burnout among care staff for older adults with dementia: The role of reciprocity, self-efficacy and organizational factors. *Dementia*, 8(4), 515–541.
- Engström, G., Hammar, L. M., Williams, C., & Götell, E. (2011). The impact of singing in caring for a person with dementia: Single case analysis of video recorded session. *Music and Medicine*, 3(2), 95–101.
- Fornazzari, L., Castle, T., Nadkarni, S., Ambrose, M., Miranda, D., Apanasiewicz, N., & Phillips, F. (2006). Preservation of episodic musical memory in a pianist with Alzheimer disease. *Neurology*, 66(4), 610–611.
- Gagnon, L., Gosselin, N., Provencher, V., & Bier, N. (2012). Perception and emotional judgments of music in dementia of the Alzheimer type: A short case study. *Music Perception*, 29(5), 509–519.
- Ganguli M., Dodge, H. H., Shen, C., Pandav, R. S., & DeKosky S. T. (2005). Alzheimer disease and mortality: A 15-year epidemiological study. *Archives of Neurology*, 62, 779–784.
- Gardner, C. (1999). Music therapy: Enhancing communication between family caregivers and their loved ones with dementia. *Dissertation Abstracts International Section A: Humanities & Social Sciences*, 60, 1953–1954.
- Gaertner, M. (1999). The sound of music in the dimming, anguished world of Alzheimer's disease. In T. Wigram & J. De Backer (Eds.), *Clinical applications of music therapy in psychiatry* (pp. 244–262). Philadelphia, PA: Jessica Kingsley.
- Gerdner, L. A. (2005). Use of individualized music by trained staff and family: Translating research into practice. *Journal of Gerontological Nursing*, 31(6), 22–30.
- Geroldi, C., Metitieri, T., Binetti, G., Zanetti, O., Trabucchi, M., & Frisoni, G. B. (2000). Pop music and frontotemporal dementia. *Neurology*, 55(12), 1935–1936.
- Götell, E., Brown, S., & Ekman, S.-L. (2000). Caregiver-assisted music events in psychogeriatric care. *Journal of Psychiatric and Mental Health Nursing*, 7, 119–125.
- Götell, E., Brown, S., & Ekman, S.-L. (2002). Caregiver singing and background music in dementia care. *Western Journal of Nursing Research*, 24(2), 195–216.
- Götell, E., Brown, S., & Ekman, S.-L. (2003). Influence of caregiver singing and background music on posture, movement and sensory awareness in dementia care. *International Psychogeriatrics*, 15(4), 411–430.
- Götell, E., Brown, S., & Ekman, S.-L. (2009). The influence of caregiver singing and background music on vocally expressed emotions and moods in dementia care: A qualitative analysis. *International Journal of Nursing Studies*, 46, 422–430.
- Götell, E., Thunborg, C., Söderlund, A., & von Heideken Wägert, P. (2012). Can caregiver singing improve person transfer situations in dementia care? *Music and Medicine*, 4(4), 237–244.
- Grocke, D. E. (2005). The role of the therapist in the Bonny Method of Guided Imagery and Music (BMGIM). *Music Therapy Perspectives*, 23, 45–52.

- Grocke, D. E., & Wigram, T. (2007). *Receptive methods in music therapy: Techniques and clinical applications for music therapy clinicians, educators and students*. Philadelphia, PA: Jessica Kingsley.
- Groene, R. (2001). The effect of presentation and accompaniment styles on attentional and responsive behaviors of participants with dementia diagnoses. *Journal of Music Therapy, 38*(1), 36–50.
- Hammar, M. L., Emami, A., Engström, G., & Götell, E. (2011a). Communicating through caregiver singing during morning care situations. *Scandinavian Journal of Caring Sciences, 25*(1), 160–168.
- Hammar, M. L., Emami, A., Engström, G., & Götell, E. (2011b). Finding the key to communion. Caregivers' experience of music therapeutic caregiving in dementia care. A qualitative analysis. *Dementia, 10*(1), 98–111.
- Hammar, M. L., Emami, A., Götell, E., & Engström, G. (2011). The impact of caregivers' singing on expression of emotion and resistance during morning care situations in persons with dementia. *Journal of Clinical Nursing, 20*, 969–978.
- Hammar, M. L., Götell, E., & Engström, G. (2011). Singing while caring for persons with dementia. Single Case Analysis of video-recorded sessions. *Arts & Health, 3*(1), 39–50.
- Hanser, S. B., Butterfield-Whitcomb, J., & Kawata, M. (2011). Home-based music strategies with individuals who have dementia and their family caregivers. *Journal of Music Therapy, 48*(1), 2–27.
- Hanser, S. B., & Clair, A. A. (1995). Retrieving the losses of Alzheimer's disease for patients and caregivers with the aid of music. In T. Wigram, B. Saperston, & R. West (Eds.), *The art and science of music therapy: A handbook* (pp. 342–362). Chur, Switzerland: Harwood Academic Publisher.
- Hebert, L. E., Beckett, L. A., Scherr, P. A., & Evans, D. A. (2001). Annual incidence of Alzheimer disease in the United States projected to the years 2000 through 2050. *Alzheimer Disease and Associated Disorders, 15*, 169–173.
- Helzner, E. P., Scarmeas, N., Cosentino S., Tang, M. X., Schupf, N., & Stern, Y. (2008). Survival in Alzheimer disease: a multiethnic, population-based study of incident cases. *Neurology, 71*, 1489–1495.
- Hintz, M. (2000). Geriatric music therapy clinical assessment: Assessment of music skills and related behaviors. *Music Therapy Perspectives, 18* (1), 31–40.
- Holsinger, T., Plassman, B. L., Stechuchak, K. M., Burke, J. R., Coffman, C. J., & Williams, J. W. (2012). Screening for cognitive impairment: Comparing the performance of four instruments in primary care. *Journal of the American Geriatrics Society, 60*(6), 1027–1036.
- Janata, P. (2012). Effects of widespread and frequent personalized music programming on agitation and depression in assisted living facility residents with Alzheimer-type dementia. *Music and Medicine, 4*(1), 8–15.
- Jennings, B., & Vance, D. (2002). The short-term effects of music therapy on different types of agitation in adults with Alzheimer's. *Activities, Adaptation & Aging, 26*(4), 27–33.
- Johnson, G., Otto, D., & Clair, A. (2001). The effect of instrumental and vocal music on adherence to a physical rehabilitation exercise program with persons who are elderly. *Journal of Music Therapy, 38*(2), 189–192.
- Karras, B. (1987). Music and reminiscence: For groups and individuals. In B. Karras (Ed.), *You bring out the music in me: Music in nursing homes* (pp. 79–91). New York: Haworth Press.
- Kelleher, A. Y. (2001). The beat of a different drummer: Music therapy's role in dementia respite care. *Activities Adaptation & Aging, 25*(2), 75–85.
- Kirkland, K., & McIlveen, H. (1999). *Full circle: Spiritual therapy for the elderly*. New York: Haworth Press.

- Klein, C. M., & Silverman, M. J. (2012). With love from me to me: Using songwriting to teach coping skills to caregivers of those with Alzheimer's and other dementias. *Journal of Creativity in Mental Health, 7*, 153–164.
- Koger, S. M., Chapin, K., & Brotons, M. (1999). Is music therapy an effective intervention for dementia? A meta-analytic review of literature. *Journal of Music Therapy, 36*(1), 2–15.
- Larson, E. B., Shadlen, M. F., Wang, L., McCormick, W. C., Bowen, J. D., Teri, L., & Kukull, W. A. (2004). Survival after initial diagnosis of Alzheimer disease. *Annals of Internal Medicine, 140*, 501–509.
- Ledger, A., & Baker, F. (2005). Longitudinal research designs in music therapy with people who have dementia. *Australian Journal of Music Therapy, 16*, 88–103.
- Lesta, B., & Petocz, P. (2006). Familiar group singing: Addressing mood and social behaviour of residents with dementia and displaying sundowning. *Australian Journal of Music Therapy, 17*, 2–17.
- Lipe, A. (1995). The use of music performance tasks in the assessment of cognitive functioning among older adults with dementia. *Journal of Music Therapy, 32*(3), 137–151.
- Lipe, A. W., York, E., & Jensen, E. (2007). Construct validation of two music-based assessments for people with dementia. *Journal of Music Therapy, 44*(4), 369–387.
- Mackenzie, C. S., & Peragine, G. (2003). Measuring and enhancing self-efficacy among professional caregivers of individuals with dementia. *American Journal of Alzheimer's Disease and Other Dementias, 18*(5), 291–299.
- Magaziner, J., German, P., Zimmerman, S. I., Hebel, J. R., Burton, L., Gruber-Baldini, A. L., May, C., & Kittner, S. (2000). Epidemiology of Dementia in Nursing Homes Research Group. The prevalence of dementia in a statewide sample of new nursing home admissions aged 65 and older: Diagnosis by expert panel. *Gerontologist, 40*, 663–672.
- Matthews, R. M., & Kosloski, K. (2000). Brief in-service training in music therapy for activity aides: Increasing engagement of persons with dementia in rhythm activities. *Activities, Adaptation and Aging, 24*(4), 41–49.
- Mazer, S. E. (2010). Music, noise, and the environment of care: History, theory, and practice. *Music and Medicine, 2*(3), 182–191.
- McCarthy, K. M. (1992). Stress management in the health care field: A pilot program for staff in a nursing home unit for patients with Alzheimer's disease. *Music Therapy Perspectives, 10*(2), 110–113.
- McDermott, O., Crellin, N., Ridder, H. M., & Orrell, M. (2012). Music therapy in dementia: A narrative synthesis systematic review. *International Journal of Geriatric Psychiatry*. DOI: 10.1002/gps.3895.
- McHugh, L., Gardstrom, S., Hiller, J., Brewer, M., & Diestelkamp, W. (2012). The effect of pre-meal, vocal re-creative music therapy on nutritional intake of residents with Alzheimer's Disease and related dementias: A pilot study. *Music Therapy Perspectives, 30*(1), 32–42.
- Mell, J. C., Howard, S. M., & Miller, B. L. (2003). Art and the brain: The influence of frontotemporal dementia on an accomplished artist. *Neurology, 60*(10), 1707–1710.
- Mercadal-Brotons, M. (2011). Music therapy and dementia: A cognitive-behavioral approach. In T. Meadows (Ed.), *Developments in music therapy practice: Case study perspectives* (pp. 542–555). Gilsum, NH: Barcelona.
- Mercado, C., & Mercado, E., Jr. (2006). A program using environmental manipulation, music therapy activities, and the Somatron Vibroacoustic Chair to reduce agitation behaviors of nursing home residents with psychiatric disorders. *Music Therapy Perspectives, 24*(1), 30–38.
- Miniño, A., Murphy, S. L., Xu, J., & Kochanek, K. (2011). Deaths: final data for 2008. *National vital statistics reports*. Hyattsville, MD: National Center for Health Statistics.

- Mitty, E. L. (2012). Decision-making and dementia. *Try this: Best practices in nursing care to older adults with dementia* (Issue Number D9). Retrieved from The Hartford Institute for Geriatric Nursing, New York University, College of Nursing website: consultgerirn.org/uploads/File/trythis/try_this_d9.pdf
- Moore, R. S., Staum, M. J., & Brotons, M. (1992). Music preferences of the elderly: Repertoire, vocal ranges, tempos, and accompaniments for singing. *Journal of Music Therapy*, 29(4), 236–252.
- Moreno, J. (1988). Multicultural music therapy: The world music connection. *Journal of Music Therapy*, 25(1), 17–27.
- Morris, J.C. (1993). The Clinical Dementia Rating (CDR): Current vision and scoring rules. *Neurology*, 43, 2412–2414.
- Munk-Madsen, N. (2001). Assessment in music therapy with clients suffering from dementia. *Nordic Journal of Music Therapy*, 10(2), 205–208.
- Newman, S., & Ward, C. (1992–1993). An observational study of intergenerational activities and behavior change in dementing elders at adult day centres. *International Journal of Aging and Human Development*, 36(4), 321–333.
- Nordoff, P., Robbins, C., & Marcus, D. (2007). *Creative music therapy: A guide to fostering clinical musicianship*. Gilsum, NH: Barcelona Publishers.
- Norman, R. (2012). Music therapy assessment of older adults in nursing homes. *Music Therapy Perspectives*, 30(1), 8–16.
- Nugent, N. (2002). Agitated behaviours in Alzheimer's disease and related disorders: Music and music therapy research. *Australian Journal of Music Therapy*, 13, 38–50.
- Odell-Miller, H. (2002). Musical narratives in music therapy treatment for dementia. In L. Bunt & S. Hoskyns (Eds.), *The handbook of music therapy*. London: Routledge.
- Olde Rikkert, M. G. M., Tona, K. D., Janssen, L., Burns, A., Lobo, A., Robert, P., Sartorius, N., Stoppe, G., & Waldemar, G. (2011). Validity, reliability, and feasibility of clinical staging scales in dementia: A systematic review. *American Journal of Alzheimer's Disease & Other Dementias*, 26(5), 357–365.
- Olderog-Millard, K. A., & Smith, J. M. (1989). The influence of group singing therapy on the behavior of Alzheimer's disease patients. *Journal of Music Therapy*, 26(2), 58–70.
- Pacchetti, C., Mancini, F., Aglieri, R., Fundarò, C., Martignoni, E., & Nappi, G. (2000). Active music therapy in Parkinson's Disease: An integrative method for motor and emotional rehabilitation. *Psychosomatic Medicine*, 62, 386–393.
- Patrick, L., & Avins, K. (2005). Music therapy approaches for patients with dementia at end of life. In C. Dileo & J. Loewy (Eds.), *Music therapy at the end of life* (pp. 77–84). Cherry Hill, NJ: Jeffrey Books.
- Peretz, I. (1996). Can we lose memory for music? A case of music agnosia in a nonmusician. *Journal of Cognitive Neuroscience*, 8, 481–496.
- Peretz, I., & Coltheart, M. (2003). Modularity of music processing. *Nature Neuroscience*, 6, 688–691.
- Peretz, I., & Hyde, K. L. (2003). What is specific to music processing? Insights from congenital amusia. *TRENDS in Cognitive Sciences*, 7(8), 362–367.
- PointClickCare®. (2013, April 18). [Website]. Retrieved from http://www.pointclickcare.com/corp_site/index.jsp
- Powell, H. (2004). A dream wedding: From community music to music therapy with a community. In M. Pavlicevic & G. Ansdell (Eds.), *Community music therapy* (pp. 167–185). Philadelphia, PA: Jessica Kingsley.
- Prickett, C. A., & Moore, R. S. (1991). The use of music to aid memory of Alzheimer's patients. *Journal of Music Therapy*, 28(2), 101–110.

- Raglio, A., Bellelic, G., Mazzolac, P., Bellandia, D., Giovagnolie, A. R., Farinaf, E., Stramba-Badiale, M., Gentileh, S., Gianellii, M. V., Ubezioa, M. C., Zanettil, O., & Trabucchim, M. (2012). Music, music therapy and dementia: A review of literature and the recommendations of the Italian Psychogeriatric Association. *Maturitas*, *72*, 305–310.
- Raijmaekers, J. (1993). Music therapy's role in the diagnosis of psycho-geriatric patients in the Hague. In M. H. Heal & T. Wigram (Eds.), *Music therapy in health and education* (pp. 126–134). Philadelphia, PA: Jessica Kingsley.
- Ridder, H. M. (2005). An overview of therapeutic initiatives when working with patients suffering from dementia. In D. Aldridge (Ed.), *Music therapy and neurological rehabilitation: Performing health* (pp. 61–82). Philadelphia, PA: Jessica Kingsley.
- Ridder, H. M. (2011). How can singing in music therapy influence social engagement for people with dementia? Insights from the polyvagal theory. In F. Baker & S. Uhlig (Eds.), *Voicework in music therapy: Research and practice* (pp. 130–146). London: Jessica Kingsley.
- Ridder, H. M., & Aldridge, D. (2005). Individual music therapy with persons with frontotemporal dementia: Singing dialogue. *Nordic Journal of Music Therapy*, *14*(2), 91–106.
- Ridder, H. M., Wigram, T., & Ottesen, A. M. (2009). A pilot study on the effects of music therapy on frontotemporal dementia—developing a research protocol. *Nordic Journal of Music Therapy*, *18*(2), 103–132.
- Rio, R. (2002). Improvisation with the elderly: Moving from creative activities to process-oriented therapy. *The Arts in Psychotherapy*, *29*, 191–201.
- Rio, R. (2009). *Connecting through music with people with dementia: A guide for caregivers*. Philadelphia, PA: Jessica Kingsley.
- Robertson-Gillam, K. (2011). Music therapy in dementia care. In H. Lee & T. Adams (Eds.), *Creative Approaches in Dementia Care* (pp. 91–109). London: Palgrave Macmillan.
- Sacks, O. (2007). *Musicophilia*. New York: Alfred A. Knopf.
- Schellin, K. J., & Gemeiner, K. E. (2003). *Movercise: Adapting music & movement: An Interdisciplinary approach to range of motion*. [DVD and manual]. Lincolnshire, IL. Accessible at: <http://www.geocities.ws/dtschellin/>
- Shaw, J. (1993). *The joy of music in maturity*. St. Louis, MO: MMB Music.
- Sherratt, K., Thornton, A., & Hatton, C. (2004). Music interventions for people with dementia: A review of the literature. *Ageing & Mental Health*, *8*(1), 3–12.
- Shively, C., & Henkin, L. (1986). Music and movement therapy with Alzheimer's victims. *Music Therapy Perspectives*, *3*, 56–58.
- Silber, F., & Hes, J. P. (1995). The use of songwriting with patients diagnosed with Alzheimer's disease. *Music Therapy Perspectives*, *13*(1), 31–34.
- Simpson, F. (2000). Creative Music Therapy: A last resort? In D. Aldridge (Ed.), *Music therapy in dementia care* (pp. 166–183). Philadelphia, PA: Jessica Kingsley.
- Smith, G. H. (1986). A comparison of the effects of three treatment interventions on cognitive functioning of Alzheimer patients. *Music Therapy*, *6a*(1), 41–56.
- Soundbeam®. (2013, January 30). [Website]. Retrieved from <http://www.soundbeam.co.uk/>
- Swearer, J. M., O'Donnell, B. F., Ingram S. M., & Drachman, D. A. (1996). Rate of progression in familial Alzheimer's disease. *Journal of Geriatric Psychiatry and Neurology*, *9*, 22–25.
- Sue, D. W., & Sue, D. (2003). *Counseling the culturally diverse: Theory and practice*. New York: John Wiley & Sons.
- Thomas, D. W., Heitman, R. J., & Alexander, T. (1997). The effects of music on bathing cooperation for residents with dementia. *Journal of Music Therapy*, *34*(4), 246–259.

- Todd, S. J., & Watts, S. C. (2005). Staff responses to challenging behavior shown by people with dementia: An application of an attribution-emotional model of helping behaviour. *Aging and Mental Health, 9*(1), 71–81.
- Tomaino, C. (2000). Working with images and recollection with elderly patients. In D. Aldridge (Ed.), *Music therapy in dementia care* (pp. 195–211). Philadelphia, PA: Jessica Kingsley.
- Ueda, T., Suzukamo, Y., Sato, M., & Izumi, S.-I. (in press). Effects of music therapy on behavioral and psychological symptoms of dementia: A systematic review and meta-analysis. *Ageing Research Reviews* (2013), <http://dx.doi.org/10.1016/j.arr.2013.02.003>
- van der Steen, J. T., Volicer, L., Gerritsen, D. L., Kruse, R. L., Ribbe, M.W., & Mehr, D. R. (2006). Defining severe dementia with the Minimum Data Set. *International Journal of Geriatric Psychiatry, 21*(11), 1099–1106.
- Vibroacoustics for Seniors. (2012, December 12). [Website]. Retrieved from <http://www.vibroacoustictherapy.com/vibroacoustics-for-seniors>
- Vink, A. (2000). A survey of music therapy practice with elderly people in the Netherlands. In D. Aldridge (Ed.), *Music therapy in dementia care* (pp. 119–138). Philadelphia, PA: Jessica Kingsley.
- Vink, A. C., Birks, J. S., Bruinsma, M. S., & Scholten, R. J. (2011). Music therapy for people with dementia. *Cochrane Database of Systematic Reviews, 4*. Art. No.: CD003477. DOI: 10.1002/14651858.CD003477.pub2.
- Vink, A. C., Bruinsma, M. S., & Scholten, R. J. P. M. (2011). Music therapy for people with dementia. *Cochrane Database of Systematic Reviews 2003, Issue 4*,. Art. No.: CD003477. DOI: 10.1002/14651858.CD003477.pub2.
- Wade, F. L. (1987). Music and movement for the geriatric resident. In B. Karras (Ed.), *You bring out the music in me: Music in nursing homes* (pp. 37–62). New York: Haworth Press.
- Ward, C. R., Kamp, L. L., & Newman, S. (1996). The effects of participation in an intergenerational program on the behavior of residents with dementia. *Activities, Adaptation & Aging, 20*(4), 61–76.
- Weiner, M. F., Tractenberg, R. E., Jin, S., Gamst, A., Thomas, R. G., Koss, E., & Thal, L. J. (2002). Assessing Alzheimer's disease patients with the Cohen-Mansfield Agitation Inventory: scoring and clinical implications. *Journal of Psychiatric Research, 36*, 19–25.
- Wenrick, N. A. (1996). *So much more than a sing-a-long: Creative activities for groups*. St. Louis, MO: MMB Music.
- Whitcomb, J. B. (1994). "I would weave a song for you": Therapeutic music and milieu for dementia residents. *Activities, Adaptation & Aging, 18*(2), 57–74.
- Wigram, T., Pedersen, I. N., & Bonde, L. O. (2002). *A comprehensive guide to music therapy: Theory, clinical practice, research and training*. Philadelphia, PA: Jessica Kingsley.
- Xie, J., Brayne, C., & Matthews, F. E. (2008). Survival times in people with dementia: Analysis from a population-based cohort study with 14-year follow-up. *BMJ (British Medical Journal), 336*, 258–262. doi: <http://dx.doi.org/10.1136/bmj.39433.616678.25>
- York, E. (1994). The development of a quantitative music skills test for patients with Alzheimer's Disease. *Journal of Music Therapy, 31*(4), 280–296.
- Young, L. (2009). Multicultural issues encountered in the supervision of music therapy internships in the USA and Canada. *The Arts in Psychotherapy, 36*, 191–201.
- Young, L., & Nicol, J. J. (2011). Perspectives on singing and performance in music therapy. *International Symposium on Performance Science, 129–134*. Retrieved from <http://www.legacyweb.rcm.ac.uk/cache/flo026688.pdf>
- Ziv, N., Granot, A., Hai, S., Dassa, A., & Haimov, I. (2007). The effect of background stimulative music on behavior in Alzheimer's patients. *Journal of Music Therapy, 44*(4), 329–343.