

# Recreational Activities to Reduce Behavioural Symptoms in Dementia

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*Few clinicians have an educational grounding in the use of nonpharmacological therapies for people with dementia. In this article, we explore the utility of recreational activities as one nonpharmacological intervention that has demonstrated effectiveness for reducing the behavioural symptoms of dementia. The implementation of effective recreational activities involves three components: understanding the evidence for this approach; acknowledging the need to reduce medications that have the potential to interfere with activity effectiveness; and individualizing activities so that the maximum benefit from the intervention is obtained.*

*Key words: dementia, activities, nonpharmacological interventions, potentially inappropriate medications, individualized care*

## Introduction

Biomedical research has advanced our understanding of the genetic and biological bases of dementia disorders. Unfortunately, the enormous investment in pharmacological treatments for dementia and its related symptoms has not translated into a cure for these devastating diseases. The behavioural symptoms that accompany dementia are still some of the most difficult and distressing behaviours that caregivers deal with when caring for people with dementia.<sup>1</sup>

Behavioural symptoms include aggression, wandering, screaming, and apathy; they tend to be most problematic during moderate stages of dementia, and they account for many poor health outcomes such as a decline in physical functioning, the use of restraints, social

isolation, and increased risk of abuse.<sup>2-4</sup> Behavioural symptoms contribute significantly to long-term care costs and are a major source of caregiver burden.<sup>5,6</sup> As dementia progresses, many individuals exhibit both agitation and apathy,<sup>7</sup> making pharmacological treatment difficult because the sedating effects of drugs used to treat agitation may increase apathy.

Nonpharmacological interventions are recommended as the first line of treatment for the behavioural symptoms of dementia because they are safe and equally efficacious as pharmacological treatments.<sup>8</sup> Few clinicians, however, have an educational grounding in the use of nonpharmacological therapies for people with dementia. In this article, we explore the utility of recreational activities as one nonpharmacological interven-

tion that has demonstrated effectiveness for reducing the behavioural symptoms of dementia, particularly during mild to moderate stages of the disease. The implementation of effective recreational activities involves three components: understanding the evidence for this approach; acknowledging the need to reduce medications that have the potential to interfere with activity effectiveness; and individualizing activities so that the maximum benefit from the intervention is obtained.

## The Evidence for Recreational Activities

Activity, both mental and physical, is a basic human need. Unfortunately, people with dementia have a very low rate of activity participation because they often lack the physical and cognitive abilities to initiate engagement. The boredom and isolation that result from inactivity lead to many of the behavioural symptoms exhibited by people with dementia.<sup>9</sup>

Recreational programs promote quality of life by providing an appropriate level of stimulation using meaningful activities. Less research has been devoted to testing the effectiveness of recreational activities in comparison to pharmacological therapies for reducing behavioural symptoms; however, the results from this small body of work are promising. A systematic review of recreational activities found good evidence for the effectiveness of music therapy, Snoezelen—a relaxation technique popular in European countries—and some types of sensory stimulation.<sup>10</sup> Other research offers some support for use of pet therapy, exercise, and bright light therapy.<sup>11-13</sup> Less evidence supports the use of reminiscence therapy, reality orientation, validation therapy, Montessori activities, or simulated presence.

There are several themes that underlie the evidence for recreational activity interventions. First, these interventions are most effective in the prevention of behavioural symptoms and less so during a behavioural crisis. Second, their effect is short lived, so they need to be provided on a continuous basis to pre-

**Figure 1:** Example of a Simple Leisure Interest Finder

<b>Farrington Leisure Interest Inventory</b>	
Client _____	Informant _____
Date _____	Work History _____
Where Born/Grew up _____	
Directions: Check column P if did in the past. Column N if does now or would like to	

Sports/Games	P	N	Social	P	N	Outdoors	P	N	Cultural	P	N
Archery			Ambulance volunteer			Bicycling			Acting—Theatre		
Auto Racing			Auctions			Bird Watching			Antique Cars		
Badminton/Tennis			CB Radios			Boating/Canoeing			Antiques		
Baseball/Softball			Children			Butterfly Watching			Auto Care/Repair		
Basketball			Church Activities			Camping			Bookbinding		
Billiards			Civic Activity			Driving			Ceramics		
Bingo			Club Meetings			Fishing			Collecting:		
Board Games			Dancing			Car Rides					
Bocce Ball			Dining Out			Gardening			Concerts		
Bowling			E-mail			Going to Beach			Cooking/Baking		
Boxing			Fire Department Volunteer			Horseback Riding			Crafts		
Card Games			Fraternal Org.			Hunting/Trapping			Creative Writing		
Checkers/Chess			Garage Sales			Ice Skating			Decorating		
Computer/Video			Ham Radio			Jogging/Walking			Designing Clothes		
Croquet			Hot Tub			Kite Flying			Drawing House Plans		
Crossword/Word find			Massage			Outdoor Walks			Electronics		
Darts			Motorcycles/ATV			Nature/Environment			Flower Arranging		
Fitness/Exercise			Parties			Parades			Leatherworking		
Football			Pets:			Picnicking			Meditating		
Gambling						Rec. Vehicles—RV			Model Building		
Golf			Political Activity			Riding in a Car			Movies:		
Gymnastics			Pub or Tavern			Roller Skating/Blading					
Museums											
Horseracing			Shopping			Skiing			Music:		
Horseshoes			Sitting on Porch			Snow Activities					
Puzzles			Telephoning			Sunbathing			Musical Instrument		
Martial Arts			Visiting			Surfing			Needlework		
Miniature Golf			Volunteering			Swimming			Painting/Drawing		
Shuffleboard			Writing Letters			<b>List Other:</b>			Photography		
Soccer			<b>List Other:</b>						Pottery/Ceramics		
Squash/Handball									Reading		
Table Tennis									Sewing		
Volleyball									Television		
Watching Sports									Travelling		
<b>List Other:</b>									Woodworking		
									<b>List Other:</b>		

List favourite thing to do \_\_\_\_\_

Favourite food \_\_\_\_\_ Types of music enjoyed \_\_\_\_\_

Recreation therapist \_\_\_\_\_

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vent behavioural symptoms from occurring. Third, greater efficacy is realized when activity interventions are individualized along the lines of a person’s interests and functional abilities and are balanced throughout the day with periods of rest.<sup>14,15</sup> Finally, the successful implementation of these interventions requires collaboration with the interdisciplinary team, including nurses, the recreational therapies, and the primary care physician.<sup>16</sup> One area of interdisciplinary collaboration that is vital to the success of nonpharmacological interventions is the reduction of medications that interfere with active engagement in daily activities.

### Reducing Medications That Interfere with Activities

Central nervous system (CNS)-active medications are often used to treat the behavioural symptoms of dementia, but

there is little evidence of their effectiveness and a great risk of drug-related problems from their use.<sup>17–20</sup> Reducing, or where possible avoiding, the use of high-risk drugs that interfere with active engagement is an important strategy for implementing effective recreational activities in people with dementia. Even CNS-active medications that are appropriately used in this population can accumulate in amounts that lead to problems that interfere with the performance of even the most basic activities.

Potentially inappropriate medications (PIMs) as defined by the Beers criteria and CNS-active medications classified according to the American Hospital Formulary Service are medications that carry a high risk for sedation and other associated problems in people with dementia.<sup>21,22</sup> Many of the medications on these lists carry a high anticholinergic burden, which lessens older adults’ abil-

ity to participate in recreational and cognitive activities.<sup>23</sup> Practitioners who are serious in their efforts to use nonpharmacological interventions for behavioural symptoms should make attempts to avoid or reduce these medications.

Several methods can be used to reduce high-risk medications, and these are included in Beers criteria, Assessing Care of Vulnerable Elders (ACOVE) criteria, Screening Tool of Older Persons’ potentially inappropriate Prescriptions (STOPP) criteria, and the Medication Appropriateness Index.<sup>21,22,24–26</sup> When discontinuing a medication, the whole clinical picture should be considered. Several recent intervention studies have shown promising evidence that PIMs can be effectively reduced or eliminated in older adults. Yourman et al. reviewed 10 studies that utilized computer decision support to decrease problem medications, and eight of these studies showed

**Table 1:** How to Decide What Activities to Prescribe

**In activity analysis we consider the following demands of an activity:**

1. Physical Demands/Characteristics
  - What parts of the body are required? Arms, hands, legs, feet, neck, head?
  - What types of movement are required? Bending, stretching, standing, reaching, throwing, catching?
  - What level of coordination is required? Eye-hand coordination?
  - What level of strength is required? Endurance? Flexibility?
2. Cognitive Demands/Characteristics
  - How much immediate recall is necessary?
  - How much long-term memory is necessary?
  - What level of concentration is required? For how long?
  - How many rules are there?
  - Do participants need to be able to read? Write? Use math?
  - Do participants need to be able to recognize colour, objects, sizes, or numbers?
  - Is abstract thinking needed?
3. Emotional Demands/Characteristics
  - What feelings, if any, may be expressed as part of this activity? Joy, guilt, pain, anger, fear, or frustration?
4. Social Demands/Characteristics
  - What type of social interaction is demanded? Dyad? Small group? Large group?
  - Do participants interact directly with one another?

**Table 2:** Recreational Activities Commonly Enjoyed by People with Early and Moderate Dementia

Table games
Shuffleboard
Chair volleyball
Bocce ball or bowling
Horseshoes
Music lessons
Songbook creation
Books on tapes
Brain fitness <sup>1</sup>
Cooking
Adaptive cards <sup>2</sup>
Construction crafts
Exercising
Dancing
Gardening or being outdoors
Memory book <sup>3</sup>
Putting green/adapted golf
Relaxation session
Bird/nature activities
Magazine/book clubs
Community re-integration
Teaching others
Discussion/feelings groups
Health promotion classes
Coping skills classes

1. A series of activities from the book *Brain Fitness* (Fitzsimmons, 2008)<sup>32</sup> that has activity plans for three levels of cognitive activities.

2. Adapted card games use large cards, simplified rules, or a card holder.

3. Memory books are individualized wallet-sized books jointly made to help residents make needs and preferences known.

Sources: Fitzsimmons S et al., 2002<sup>30</sup>; Buettner L et al., 2006.<sup>31</sup>

moderate improvements in reducing inappropriate medications.<sup>27</sup> Other studies have successfully used academic detailing, faxes, pharmacist phone calls, and a team approach to discontinue inappropriate medications in older adults.

Knowing the patient and taking an interdisciplinary team approach makes the process of reducing PIMs more successful. Because CNS-active medications often interfere with the ability to participate in therapeutic activities and daily life, practitioners should always be asking the following: What is the goal of the medication therapy? Is the medication still indicated? What are the potential side effects versus the benefits of the medication? Is a nonpharmacological treatment an effective and safer alternative to the PIM? Whichever criteria are chosen, the goal should be to minimize the overall number of medications and those that negatively impact the CNS.

### Individualizing Activities

A recreational therapist is a nationally certified allied health professional who utilizes a wide range of interventions and techniques to improve the physical, cognitive, emotional, social and leisure needs of their clients. A recreational therapist works with the client, their family members, and others significant to the improvement of their health condition. Recreational therapists assist clients to develop skills, knowledge, and behaviours for daily living and community involvement. The goal of recreational therapy is to restore, remediate, or rehabilitate in order to improve functioning and independence as well as reduce or eliminate the effects of illness or disability.

Therapeutic recreation specialists use appropriately adapted recreational and leisure time interventions to facilitate the development of an active lifestyle for people with dementia. Recreational activities should meet not only the interests of each individual but also that person's specific needs for movement, stimulation, relaxation, and social experiences. To individualize a recreational offering, the practitioner begins by determining leisure interests. After interests are deter-

mined, the older adult is assessed for skills and limitations. The activity is then analyzed and adapted to provide challenge and success.

It is important to realize that not all activities are therapeutic and that one recreational activity does not fit all people. For people with mild to moderate dementia, it is important to provide stigma-free normalized recreational experiences based on their interests. There is a growing body of evidence concerning retained awareness in people with early- and moderate-stage dementia that identifies their desire to live normally and with continuity. Self-awareness is germane in the identification of needs; needs associated with a retained awareness of recreation and leisure may be appropriately identified with a simple leisure interest finder<sup>28</sup> (Figure 1). A broad range of individualized needs are addressed during recreation, including self-esteem, personal control, leisure education, and social support. Retained awareness allows people with dementia the opportunity to share their perspectives and, in some ways, to help determine their own recreational activities.<sup>29</sup>

In order to provide individualized care, practitioners must assess each client's cognitive functioning and the physical limitations that determine skill levels. Based on these assessments, practitioners can tailor their recreational offerings so they meet interests and are implemented in an adapted manner to provide success. Cognitive impairments reduce speed, language ability, and abstract thinking. The goal is to engage the older adult in an activity that provides challenges matching his or her skill level. To do this, the activity itself needs to be evaluated.

Activity analysis is a method for examining the characteristics or demands and challenges of a recreational activity. The information gleaned from activity analysis allows the practitioner to ultimately consider the demands or challenges of an activity in relation to the skill level of the older adult (Table 1). Once the practitioner understands the demands of the recreational activity and the skills of

## Key Points

The behavioural symptoms of dementia are among the most distressing symptoms that caregivers encounter.

Nonpharmacological interventions are recommended as the first line of treatment for the behavioural symptoms of dementia.

Recreational activities hold promise as an effective approach to the prevention of behavioural symptoms of dementia.

To maximize the benefit of recreational activities, medications that interfere with active engagement should be avoided or reduced.

Recreational activities should be tailored to the individual's personal interests and functional abilities.

the older adult, adaptations are made that will ideally lead to an engaging, active, and successful experience. Table 2 offers a list of popular recreational activities identified by people with early- and moderate-stage dementia. Activity analysis and adaptation should be used by the practitioner to modify and individualize these offerings.

While the individual with dementia has a progressive disorder that may limit his or her ability to participate in certain activities, this does not mean that those activities cannot be modified to meet the abilities of the individual. Often, activities can be simplified by breaking them down into steps and eliminating or modifying steps that are too difficult. This process is called activity adaptation.

A simple example of how activities can be adapted involves the game of Bingo. Almost everyone has played Bingo at some time in his or her life, and the rules are simple; however, to an individual with dementia, the Bingo card can be complicated and formidable. There are a number of things that can be done to simplify Bingo to meet the abilities of individuals with dementia. First, cards can be homemade to include fewer numbers—rather than being five squares by

five squares, the cards can be made three by three or two by three. Second, rather than using a large variety of numbers, the game can use only one to 20. Third, eliminating the free space can also simplify the activity. One last way the activity can be modified is by making each game “black-out,” which means all the squares are covered to win. This approach makes it easier for the individual with dementia to determine independently that he or she has won.

When adapting activities, it is important to keep them as close to the original or traditional activity as possible. Too much adaptation may change the activity to the point where it is not recognizable to the individual. Therefore, only necessary adaptations should be made. Also, remember that an adaptation for one individual may not be the correct adaptation for another individual.

Another key to successful participation involves the structure of activities. Breaking the tasks of the activity into steps ensures a flow of information and demands that can be understood and followed by the person with dementia.

## Conclusion

In summary, recreational activities hold

much promise for reducing behavioural symptoms and improving quality of life for people with dementia. An informed approach to their use will maximize the effectiveness of this first-line treatment.



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## Clinical Pearls

Family members are a rich source of information about the activity preferences of people with dementia.

## Activities to Reduce Behavioural Symptoms in Dementia

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