

## Practice Guidelines for Recreation Therapy in the Care of People with Dementia (CE)

By: Linda Buettner, CTRS, PhD, and Ann Kolanowski, PhD, RN

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### **Abstract:**

Activity is a basic human need expressed in work and leisure pursuits. Unfortunately, people with dementia have a low rate of activity participation because of associated physical and cognitive constraints. Recently, the American Therapeutic Recreation Association (ATRA) held a consensus meeting to address this issue and formulate practice guidelines for recreation therapy in the care of people with dementia. The consensus document presents an evidence-based intervention theory that draws on the science of two disciplines: nursing and recreation therapy. This article reports on the ATRA guidelines and illustrates their applicability in a case study of a resident with severe aggression associated with dementia.

### **Article:**

In response to increased consumer and regulatory pressure to enhance quality of life for institutionalized elders, many facilities are seeking to meet residents' individual biopsychosocial needs through outcome-oriented therapeutic recreation. Studies indicate that such interventions are effective in maintaining function and improving mood and behavior, all indicators of quality of life.<sup>1</sup> Unfortunately, an empirically based method for prescribing these interventions has not been developed.

To address this issue, the American Therapeutic Recreation Association (ATRA) formed a workgroup of clinical experts to develop practice guidelines for integrating recreation therapy into the care and treatment of frail elders who exhibit dementia-related behaviors such as agitation and passivity. The multidisciplinary guidelines combine a midrange theory from nursing and a practice theory from therapeutic recreation. Their ultimate goal is to decrease and prevent agitated or passive behaviors without employing added medications or side effects.

This article reports on the consensus guidelines that were developed by the ATRA and illustrates their applicability in a case study of a resident with severe aggression associated with dementia.

### **BACKGROUND**

ATRA defines therapeutic recreation as the provision of treatment and recreation services to persons with illnesses or disabling conditions. The primary purposes of treatment services—often referred to as “recreational therapy”—are to restore, remediate, or rehabilitate to improve functioning and independence as well as decrease or eliminate the effects of illness or disability. The primary purposes of recreational services are to provide recreation resources and opportunities to improve health and well-being. Therapeutic recreation is provided by professionals who are trained and certified, registered, or licensed to provide therapeutic recreation.<sup>2</sup> Therapeutic recreation interventions show great promise as management strategies for dementia-related behaviors.

Currently, 17,000 nursing homes provide care for an estimated 1.5 million older adults.<sup>3</sup> As these numbers grow, so do concerns about appropriate therapeutic recreation programs for individuals who exhibit dementia-

related behaviors. Although experts agree that nonpharmacologic interventions should be attempted first, few health care professionals understand the benefit of interventions offered by recreational therapists, and the discipline has advanced no consistent framework for the prescription and implementation of these activity interventions.

Activity is a basic human need expressed in leisure and work pursuits. Unfortunately, people with dementia have a low rate of activity participation because of associated physical and cognitive constraints.<sup>4</sup> The boredom and isolation that result from inactivity leads to many of the agitated and passive behaviors exhibited by this population.<sup>5,6</sup>

To address this issue, the ATRA held a consensus meeting in February 2002 that was attended by expert recreation therapists from every region of the country. The consensus document (available at [www.atra-tr.org](http://www.atra-tr.org)) serves as an evidence-based intervention theory that capitalizes on the strengths of two disciplines: nursing, which focuses on the identification of individual needs, and recreation therapy, which focuses on maintaining and improving functional ability through recreational activities. The motivation underlying the intervention guidelines was that individuals who are able to meet basic needs using their remaining abilities are more likely to experience a state of well-being.

## INTERVENTION GUIDELINES

Intervention theory explains why, how, and under what circumstances treatment effects occur; it combines descriptive midrange theory and prescriptive practice theory.<sup>7</sup> Intervention theory allows treatments to be applied in an intelligent rather than trial-and-error approach.<sup>8</sup> The ATRA Dementia Practice Guidelines<sup>9</sup> provide recreational therapists and others with a consistent framework to follow for assessment, prescription, treatment, and outcome measurement for older adults with dementia and disturbing behaviors. This document includes<sup>10</sup> valid and reliable assessment tools, 82 recreation therapy protocols, and the most current evidence supporting those interventions. The guideline also supplies sample physician orders for the recreational therapies as well as an extensive reference list.

The specific intervention theory that resulted from the consensus meeting combined the Need-Driven Dementia- Compromised Behavior Model (NDB)<sup>10</sup> and the Neurodevelopmental Sequencing Program (NDSP).<sup>11</sup> The NDB model is a middle-range theory that describes dementia-related behaviors and illustrates the processes that produce them. It also identifies and describes the causal processes through which interventions are expected to produce desired outcomes. It was selected as the guiding framework for understanding dementia-related behaviors because it conceptualizes these behaviors as unmet needs.

The NDSP is a practice theory that describes the design of an intervention, the resources needed to deliver it, and implementation procedures. It was selected as the framework for implementation because of its widespread use in practice and strong research base. Both theories are briefly described below.

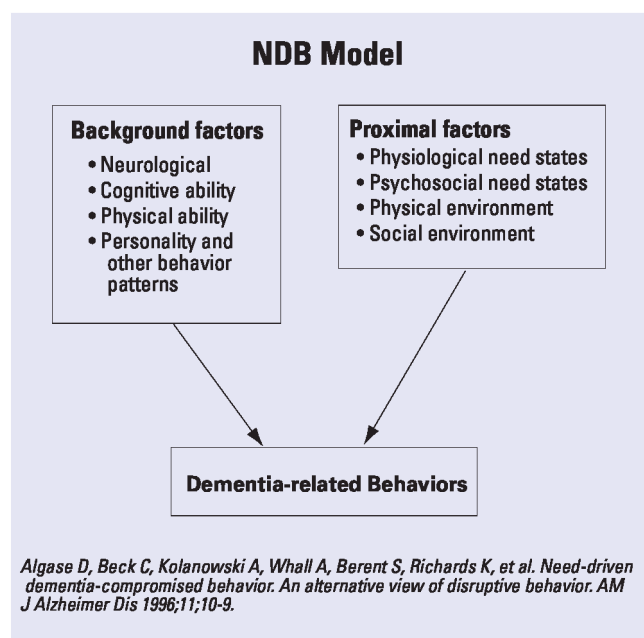
### Instructions to CE enrollees:

The closed-book, multiple-choice examination that follows this article is designed to test your understanding of the educational objectives listed below. The answer form is on page 25.

**On completion of this article, the reader should be able to:**

1. Identify the American Therapeutic Recreation Association (ATRA) guidelines
2. Describe the applications of ATRA guidelines in a case study
3. Discuss implications for nursing practice

**Figure. Need-Driven Dementia-Compromised Behavior Model**



### ***NDB Model***

The NDB model has challenged the prevalent view that dementia-related behaviors are simply part of the disease process. The model asserts that such behaviors arise in part because of an unmet need. The individual who wanders, screams, or strikes out is pursuing a goal or trying to express a need. As such, the model changes the interpretation of dementia-related behaviors from disruptive to understandable.<sup>12</sup> In the NDB model, relatively stable individual characteristics (background factors) interact with current situational variables (proximal factors) to produce dementia-related behaviors (Figure 1). Behaviors are seen as the most integrated and meaningful response a person with dementia can make at that time.

Background factors in the NDB model are the more enduring characteristics that shape behavior patterns overall. Although they probably cannot change them, clinicians should be aware of these factors: neuropathologic changes in the brain; cognitive factors, such as attention, memory, aphasia, apraxia, and agnosia; health status; and psychosocial factors such as gender, education, past occupation, personality type, and history of stress response. Background factors identify people at risk for dementia-related behaviors and provide a profile of strengths and weaknesses. Background factors, such as cognitive and physical functioning and personality style of interest, are critical in the selection of recreational activities.<sup>13</sup>

Proximal factors in the NDB model induce a need state and precipitate dementia-related behaviors, given the context of risk-producing background factors. They include such factors as physiological and psychologic need states and qualities of the immediate physical and social environment (noise level, lighting, temperature, crowding, and staff mix and stability).

Interventions for dementia-related behaviors are developed by isolating proximal factors and manipulating them in a way congruent with the resident's background profile. For the clinician in long-term care, the key to success lies in identifying unmet needs or environmental constraints, working with the individual's strengths, and guiding the patient with an intervention plan based on the NDSP.

### ***Neurodevelopmental Sequencing Program***

The NDSP was developed as a treatment approach to promote movement in frail older adults with dementia syndromes.<sup>11,14</sup> This approach is based on the observation that behavior, movement, and functional losses in people with dementia occur in approximately the reverse order of their original development.<sup>15,16</sup> Chosen interventions match the functional skills of the person with dementia to promote movement and provide success experiences. The concept of using appropriate recreational activities to decrease dementia-related behaviors stems from the fact that human beings are active, living organisms who derive satisfaction from using their innate abilities.<sup>17</sup>

In the NDSP, individuals with dementia are placed in a program level based on an assessment of their level of functioning. The efficacy of this approach has been shown by overall improvement in grip strength, flexibility, and agitation reduction.<sup>18</sup> Table 1 describes these levels as well as the most appropriate interventions for each. In addition, the following principles are adhered to:

- The clinician provides proper positioning to facilitate volitional movement.
- The resident's position is changed frequently.
- The resident is provided abundant sensory experiences.
- The clinician follows the sequence of motor development by proceeding cephalocaudal and proximal to distal and by going from bilateral to unilateral movement.

#### CASE STUDY

Dementia-related behaviors often result in the removal of residents from traditional activity programs in longterm care settings. Exclusion from meaningful activities often creates a situation in which the resident with dementia generates his or her own often-inappropriate stimulation or becomes isolated and withdrawn. The following case study illustrates how the ATRA treatment guidelines can be used to avert these behaviors and improve resident outcomes.

Mr. L. was a 72-year-old, widowed World War II Navy veteran who was admitted to a special care unit because of Alzheimer disease (AD) and severe aggressive behaviors. He was born in upstate New York and had a history of placement in foster care and frequent relocation. As a teenager, he had both interest and talent in gymnastics and

**Table 1.** Neurodevelopmental Sequencing Program

**Level I**

**Assets:** Ambulatory but with overhead movements more difficult; decreased endurance level; able to change positions independently; usually continent; assists with personal hygiene

**Liabilities:** At risk for falls; slower gross motor movements; balance problem; needs reminders to maintain posture; strength and endurance may be decreasing; may have muscle tension or loss of hand control (weaker grasp)

**Interventions:**

- Active sports and games of choice
- Fall prevention
- Cognitive stimulation programs with motor component
- Geriatric exercise
- Walking group
- Air mat therapy (balance and strength or relaxation)
- Kitchen activities
- Assisting with special events: decorating, food preparation, pushing wheelchairs, greeting and assisting
- Leisure lounge and leisure education

**Level II**

**Assets:** May have trunk control and head-neck control; able to use upper extremities for meaningful; fair range of motion and strength; may be able to independently move wheelchair; can roll over segmentally

**Liabilities:** Unable to ambulate without maximal assistance; may have poor posture habits; decreasing visual acuity; may use palmar grasp-reduced fine motor control; incontinence; needs assistance for bathing, dressing, toileting

**Interventions:**

- Geriatric exercise to music
- Adapted sports/games
- Food preparation activities
- Air mat therapy (balance and strength or relaxation)
- Prepare for special sensory events
- Stimulation box and simple pleasures activities

**Level III**

**Assets:** Conscious; able to respond to familiar stimulation; may be able to make eye contact

**Liabilities:** Nonambulatory; poor trunk control; poor head and neck control; poor range of motion; poor strength, eg, head lag; head or knee contracture; poor vision and hearing; may be able to roll (or may log roll); incontinent

**Interventions:**

- Passive and active range of motion
- Massage
- Positioning (eg, air mat, bean bag chair)
- Reaching activities
- Air mat therapy
- Sensory integration, special sensory events, and tactile simple pleasures items

taught it at a local boys club. He reportedly was a devoted husband and father while his two daughters were growing up. Mr. L. worked in the high-technology industry from 1953 through 1989 on Boeing aircraft as a simulator planner for the Apollo program. Both he and his wife enjoyed socializing with friends and family. He reportedly liked to be around people but did not like to engage in conversation very much.

Soon after his retirement, Mr. L. began to show a lack of interest in his hobbies and mostly sat at home sleeping or watching television. He no longer wanted to socialize or attend church. Family members initially accepted his withdrawal from activities during retirement but became concerned when memory problems became apparent. His wife took care of him at their home and was able to discreetly manage his declining skills. She hid many of his problems from their two daughters. In the summer of 1996, Mr. L.'s wife suffered a heart attack and died unexpectedly. While attending her funeral service, Mr. L. commented about the sadness he felt and asked who was in the casket. He never talked about his wife after that day.

For the next 2 years, Mr. L. lived with a daughter and granddaughter. During this time, he was diagnosed with dementia of the AD type and was treated for high blood pressure and transient ischemic attacks. He eventually became very difficult for his family to care for. He began wandering into dangerous situations and became combative when they attempted to help with his personal hygiene.

He first was placed in a nearby nursing home during the summer of 1998. By spring, the facility requested that the family find alternative placement for him on a special care unit designed to handle residents with difficult behaviors. Given the need for specialized care, Mr. L. was transferred to a veterans' nursing home in mid-March 1999.

After admission to the special care unit, Mr. L. resisted and was aggressive toward any staff members who provided hands-on care. He physically assaulted staff who attempted to touch him or go near him. He refused to get out of bed; could not be bathed, dressed, or toileted; and was not eating an adequate diet. He lost 10 pounds in a 3-week period. He was extremely difficult to redirect when wandering.

Despite multiple pharmacologic interventions, his physical aggression eventually required hospitalization at the nearby crisis center. At this time, his medications included trazodone hydrochloride, 50 mg po qHS; aspirin 325 mg po qd; lisinopril, 20 mg; folic acid, 1 mg BID; divalproex sodium EC, 500 mg BID; risperidone, .25 mg po qd; and prn lorazepam, 0.5 mg. Mr. L. spent 2 weeks at the crisis center for psychiatric care.

### APPLICATION OF THE GUIDELINES

The NDB model is the framework to assess strengths that can be improved, weaknesses that can be circumvented, and adaptation patterns that can be supported. The ATRA consensus document describes assessment tools that measure background and proximal factors. One such tool, the Farrington Comprehensive Therapeutic Recreation Assessment,<sup>2</sup> is an instrument that evaluates and plans for background factors of the NDB model. It includes measures of physical strength, flexibility, cognitive function, leisure history, and style of interest.

The Farrington assessment indicated that Mr. L. had a mental status score in the "severely impaired" range and suffered from aphasia. However, he could verbalize simple choices. His measures of muscle strength and flexibility were good, and he was able to ambulate fully without assistance. Interviews with his daughter revealed that he was somewhat introverted in the sense that he enjoyed physical activity but preferred solitude in these pursuits. He also preferred a creative approach to activity. His pattern in both leisure and vocational choices reflected these preferences.

Mr. L.'s proximal factors were assessed using the Overt Aggression Scale.<sup>19</sup> He demonstrated a tendency toward tactile defensiveness (his aggression was most notable when staff made attempts to provide personal care). He also became aggressive when staff tried to arouse him for morning care. He usually slept until 10:30 AM, mainly as a result of a heavy psychoactive drug regimen. His wandering indicated a strong physical need for activity. Noise and physical proximity were the physical and social environmental elements that triggered aggression. An inability to communicate needs and wishes has been associated with both physical and verbal aggression in persons with dementia (PWD).<sup>20</sup>

The goals for Mr. L.'s care was to improve communication by decreasing his fear of being touched by staff, by helping him to relax, and by providing an outlet for his need for physical activity. This was best done in an environment compatible with his patterns of need fulfillment: with a balanced degree of sensorimotor stimulation, particularly physical activity, and in a one-on-one context.

Using the NDSP, the staff determined that Mr. L. was at level two (Table 1) and set the following goals for him: maintain upper body range of motion; continue ambulation; provide pleasant activity that promotes crossing the midline and interaction with the therapist, particularly touch and verbal communication; and promote relaxation. The interventions that could meet these goals were air mat therapy, a walking program, and a sensory stimulation box. These activities are compatible with background factors and meet proximal needs.

Air mat therapy uses a 10' x 10' vinyl gymnastics-type mat attached to an air compressor. When an individual sits or lies on the mat, jets of air flow through the seams and provide pleasant and relaxing stimulation. The white noise provided by the air compressor also has a calming effect. The mat can hold up to 400 pounds, so the therapist and the individual with dementia can be on the mat at the same time. This mat provided Mr. L. with a

modified form of activity that he enjoyed as a teenage gymnast. During this program, the therapist gradually worked on increasing his tolerance for hand, neck, and shoulder massage and relaxation.

The therapy principles from the NDSP were used during this therapy. Mr. L. was encouraged to use both arms and hands as he sat on the mat. He was encouraged to push himself back onto to the mat and relax in supine position for 30 seconds. The therapist gently tossed a therapy balloon so that Mr. L. could use both hands to volley it back. This activity was repeated 10 times during the first day and increased by five repetitions each day thereafter. Mr. L. was handed a pillow and encouraged to relax on the mat for 3 to 5 minutes. The therapist then sat beside him on the air mattress and shook hands to congratulate him on successfully completing the ball activity. Mr. L. then was encouraged to touch his waist, knees, and toes while seated at the edge of the mat. After the first few sessions, the therapist added a shoulder massage to the routine. The therapist finished each session by holding Mr. L.'s hands and helping him to stand, and then they went for a walk outdoors.

The second intervention chosen for Mr. L. was a sensory stimulation box. The first author developed this tool to provide independent reaching and pleasant sensory rewards when buttons were pushed or turned. Again, the therapy principles from the NDSP were used to engage Mr. L. He was encouraged to use both hands to get out of his chair; he walked to the program area and was given juice to drink. After a demonstration, he was asked to reach and touch the lights, fans, and noisemakers, one at a time, with simple colorful switches. The stimulation box panel looked very much like the cockpit of an airplane and seemed to hold his attention. This intervention helped him initiate reaching and interaction with the control panel. After 15 minutes of imitating one- and two-step tasks with the therapist, Mr. L. was given some raisins on a white paper plate. He was encouraged to pick them up and eat them at the end of the activity. He then took a walk outdoors with his therapist.

Staff members hoped that Mr. L. would enjoy this activity and use the fine-motor skills to begin feeding himself again. The two interventions required a close working relationship with the therapist, and gradually other staff members were included in the activities. Mr. L. established a relationship first with his therapist, then with other unit staff members. The unit nurse's aides eventually completed the walks as the intensive recreation therapy was gradually discontinued.

## OUTCOMES

During the full 12-week intervention period, the number of Mr. L.'s aggressive episodes decreased dramatically, from more than four to fewer than one per shift. As the number of aggressive episodes decreased, the number of positive interactions in the form of outdoor walks increased.

Other outcomes indicated that Mr. L. needed much less medication to control his behavior. After the recreation therapy program, his only medications were trazodone, 25 mg q HS, and lorazepam, .50 mg BID. With fewer sedatives, he began getting up at breakfast time and joining other residents in the dining room. By using the stimulation box, he demonstrated that he had good fine-motor skills and was encouraged by nursing staff to feed himself finger foods and then to use utensils in the dining room. Staff no longer fed Mr. L. by the end of the 12-week recreation therapy intervention.

Despite his severe dementia, Mr. L. obviously recognized his recreation therapist. When the therapist entered the special care unit, Mr. L. approached and greeted her. He gradually began to show trust in the staff, allowing them to shake hands and massage his shoulders while on the air mattress. As other staff members were brought into the recreational activities, they also were associated with pleasant events.

Certified nurse's aides were included in the outdoor walks after a few weeks so that Mr. L. associated his care providers with pleasant activities. This approach also helped the aides see him in a different way by decreasing their fear of him. He required an additional 6 weeks of recreation therapy for a total of 12 weeks. He was discontinued from intensive recreation therapy and included in general unit activities at that point. During personal care, he continued to resist at times, but his occurrences of aggressiveness decreased to fewer than one time per day.

## CONCLUSION

It is vital that a strong theoretical base provides the framework for the selection, design, and implementation of interventions that successfully respond to dementia-related behaviors. The ATRA guidelines are an excellent example of an interdisciplinary approach that is effective in clinical practice. Positive outcomes can be realized for institutionalized people who demonstrate dementia-related behaviors by combining an assessment of need states, environmental supports, and a neurodevelopmental program that meets those needs. In the absence of ideal pharmacotherapies for aggression and given current federal regulations, psychosocial interventions are at least as important as medications in the treatment of cognitively impaired residents in nursing homes.

## REFERENCES

1. Opie J, Roseware R, O'Connor D. The efficacy of psychosocial approaches to behavior disorders in dementia: a systematic literature review. *Aust N Z J Psychiatry* 1999;33:789-99.
2. Buettner L, Martin S. *Therapeutic reaction in the nursing home*. State College: Venture Publishing; 1995.
3. Feder J, Komisar H, Niefeld M. Long-term care in the United States: an overview. *Heath Affairs* 2000;19:40-56.
4. Griffin J, McKenna S. Influences on leisure and life satisfaction of elderly people. *Phys Occup Ther Geriatr* 1998;15:1-16.
5. Cohen-Mansfield J, Werner P, Marx M. Observational data on time use and behavior problems in the nursing home. *J Appl Gerontol* 1992;11:114-7.
6. Perin T. Occupational need in severe dementia: a descriptive study. *J Adv Nurs* 1997;25:934-41.
7. Sidani S, Braden C. *Evaluating nursing interventions: a theory-driven approach*. Thousand Oaks: Sage; 1998.
8. Lipsey M. *Theory as method: small theories of treatments*. *New Directions Program Evaluation* 1993;57:5-38.
9. Buettner L, Fitzsimmons S. *Dementia practice guideline for recreational therapy: treatment of disturbing behaviors*. ATRA Publications; in press.
10. Algase D, Beck C, Kolanowski A, Whall A, Berent S, Richards K, et al. Need-driven dementia-compromised behavior. An alternative view of disruptive behavior. *Am J Alzheimer Dis* 1996;11:10-9.
11. Buettner L. Utilizing developmental theory and adaptive equipment with regressed geriatric patients in therapeutic recreation. *Ther Recreational J* 1988;22:72-9.
12. Kolanowski A. An overview of the need-driven dementia-compromised behavior model. *J Gerontol Nurs* 1999;25:7-9.
13. Kolanowski A, Buettner L, Costa P, Litaker M. Capturing interests: therapeutic recreation activities for persons with dementia. *Ther Recreation J* 2001;35:220- 35.
14. Buettner L, Kernan B, Carroll G. Therapeutic recreation for the frail elderly: a new approach. In: Hitzhuser G, editor. *Global therapeutic recreation*. Columbia: University of Missouri Press; 1990. p. 82-8.
15. Reisburg B. Functional assessment staging (FAST). *Psychopharmacol Bull* 1988;24:653-9.
16. Nolan N. Functional skill regression in late-stage dementias. *Am J Occup Ther* 1988;42:666-9.
17. Butcher C, Shivers J, Bucher R. *Recreation for today's society*. Englewood Cliffs, NJ: Prentice Hall; 1984.
18. Buettner L, Lundegren H, Lago D, Farrell P, Smith R. Therapeutic recreation as an intervention for persons with dementia and agitation: an efficacy study. *Am J Alzheimer Dis* 1996;11:4-12.
19. Yudofsky S, Silver J, Jackson W, Endicott J, Williams D. The overt aggression scale for the objective rating of verbal and physical aggression. *Am J Psychiatry* 1986;143:35-9.
20. Talerico K, Evans L, Strumpf N. Mental health correlates of aggression in nursing home residents with dementia. *Gerontologist* 2002;42:169-77.