



AOTA Critically Appraised Topics and Papers Series
Alzheimer's Disease

**A product of the American Occupational Therapy Association's
Evidence-Based Literature Review Project*

CRITICALLY APPRAISED PAPER (CAP)

Focused Question

What is the evidence for the effectiveness of interventions designed to establish, modify, or maintain routines on the occupational performance, quality of life, health and wellness, and client and caregiver satisfaction of persons with Alzheimer's disease?

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Ostaszkiwicz, J., Johnston, L., & Roe, B. (2004). Timed voiding for the management of urinary incontinence in adults. *The Cochrane Database of Systematic Reviews*, Issue 1. Art. No.: CD002802.pub2. DOI: 10.1002/14651858.CD002802.pub2.

PROBLEM STATEMENT (JUSTIFICATION OF THE NEED FOR THE STUDY)

State the problem the authors are investigating in this study.

Incontinence is common for older adults living in long-term-care facilities, and behavioral strategies are often used to address it. These strategies include timed voiding, habit training, and prompted voiding. Timed voiding is thought to be most useful for use with people who are not able to participate in toileting, or who cannot communicate their need to void. It involves regularly toileting the person to avoid incontinent events. It is typically used in long-term-care facilities, but the effectiveness of the intervention has not been well established.

RESEARCH OBJECTIVE(S)

List study objectives.

To assess the effectiveness of timed voiding for the management of urinary incontinence in adults.

Describe how the research objectives address the focused question.

Incontinence is thought to be associated with behavioral challenges and increased stress in people with dementia and their caregivers. Timed voiding involves establishing a routine related to toileting without active involvement of the person with dementia. It does, however, offer the opportunity to establish a routine, avoid incontinence, and thereby improve quality of life and satisfaction for the client and caregiver.

This publication is a report of a Cochrane Systematic Review, which is a standardized approach to searching, appraising, and conducting meta-analyses of high-quality evidence related to interventions. Since this is a systematic review, much of this worksheet cannot be completed (sections noted with *). However, see Results, Conclusions, and Clinical Implications for discussion of how this review contributes to the evidence-based review question. References of the articles included in the systematic review are also included.

DESIGN TYPE:

Systematic Review

Level of Evidence:

I

Limitations (appropriateness of study design):

Was the study design type appropriate for the knowledge level about this topic? *If no, explain.*

Yes

No

SAMPLE SELECTION

How were subjects selected to participate? Please describe.

Inclusion Criteria

All randomized or quasirandomized trials of timed voiding for the management of urinary incontinence.

Exclusion Criteria

**Sample Selection Biases: If yes, explain.*

Volunteers/Referrals

Yes

No

Attention

Yes

No

Others (list and explain):

***SAMPLE CHARACTERISTICS**

N =

% Dropouts

#/ (%) Male

#/ (%) Female

Ethnicity

Disease/disability diagnosis

Check appropriate group:

< 20/study group	20–50/study group	51–100/study group	101–149/study group	150–200/study group
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Sample Characteristics Bias: If no, explain.

If there is more than one study group, was there a similarity between the groups?

Yes

No

Were the reasons for the dropouts reported?

Yes

No

***INTERVENTION(S)** —Included are only those interventions relevant to answering the evidence-based question.

Group 1

Brief Description	
Setting	
Who Delivered?	
Frequency?	
Duration?	

Intervention Biases: *Explain, if needed.*

Contamination

Yes

No

Co-intervention

Yes

No

Timing

Yes

No

Site

Yes

No

Use of different therapists to provide intervention

Yes

No

***MEASURES AND OUTCOMES**—Included are measures relevant to answering the focused question.

Name of measure:

Outcome(s) measured (what was measured?):

Is the measure reliable (as reported in article)?

Yes

No

NR

Is the measure valid (as reported in article)?

Yes

No

NR

How frequently was the measure used for each group in the study?

Measurement Biases

Were the evaluators blinded to treatment status? *If no, explain.*

Yes

No

Recall or memory bias? *If yes, explain.*

Yes

No

Others (list and explain):

Limitations (appropriateness of outcomes and measures). If no, explain.

Did the measures adequately measure the outcome(s)?

Yes

No

RESULTS

List results of outcomes relevant to answering the focused question.

Include statistical significance where appropriate ($p < 0.05$).

Include effect size if reported

- Literature was reviewed from several databases from 1980- 2003. Only randomized (Level I) and quasi-randomized trials (Level II) were considered, addressing timed voiding in an adult population with an alteration in continence as a primary outcome. Only two trials met the inclusion criteria; however, the methodological quality of these trials was not high, particularly related to a lack of clarity regarding levels of blinding.
- Most participants in both selected trials were older women (mean age 86.7) with cognitive impairment. All resided in nursing facilities. In both trials nearly all participants were diagnosed with detrusor overactivity. Fifty-five percent of participants in the Tobin (1986) study were able to mobilize easily with or without an aid, 25% mobilized with difficulty and 17% were chairfast. In Smith (1992), 6/10 intervention participants and 5/10 controls required the support of one person for assistance.
- The review included two trials that together had 298 participants. One of these involved 20 participants (Smith, 1992) (Level I) and the other (Level II) 278 participants (Tobin, 1986). Both studies involved the timed voiding intervention in conjunction with other interventions, for example, medical assessment and intervention, staff education, placement of commodes at bedside. Smith (1992) is a book chapter; however, the book was peer-reviewed and only included articles that were previously presented at conferences as peer-reviewed presentations (personal communication, S. Funk, June 15, 2005).
- In one trial, fewer incontinence events were noted in the intervention group, but between-group comparisons were not completed. There were significantly fewer wet-checks noted in the intervention compared to the control group, but no standard deviation was reported (Smith, 1992).
- In the second trial, with a larger sample size, between-group differences were statistically significant for nighttime incontinence but not for daytime (Tobin, 1986).

*Was this study adequately powered (large enough to show a difference)? *If no, explain.*

Yes

No

Were appropriate analytic methods used? *If no, explain.*

Yes

No

Were statistics appropriately reported (in written or table format)? *If no, explain.*

Yes

No

CONCLUSIONS

State the authors' conclusions that are applicable to answering the evidence-based question.

“There is insufficient evidence to recommend timed voiding for the management of urinary incontinence in an adult population” (p. 9).

Were the conclusions appropriate for the Study Design (Level of Evidence)? *If no, explain.*

Yes

No

Were the conclusions appropriate for the statistical results? *If no, explain.*

Yes

No

Were the conclusions appropriate given the study limitation and biases? *If no, explain.*

Yes

No

IMPLICATIONS FOR OCCUPATIONAL THERAPY

This section provides guidance about clinical practice, program development, and other implications of the study findings as they relate to the focused question.

The authors of this systematic review note that timed voiding is probably the most commonly used strategy to cope with urinary incontinence in people with dementia living in long-term care. However, the review also found little evidence to support or refute its use. While it may be useful in circumstances of working with people who are not able to identify and/or communicate their need to void, its adoption needs to be considered in terms of the ability to adhere to a regular schedule and how residents respond to such routines.

The successful management of incontinence has important implications for health, quality of life, and stress for people with dementia and their caregivers. Further research is needed to determine if timed voiding as a routine for people with dementia has any impact on other outcomes such as occupational performance, quality of life, and client or caregiver satisfaction.

References from studies included in the review

Smith, D. A., Newman, D. K., McDowell, B. J., & Burgio, L. D. (1992). Reduction of incontinence among elderly in a nursing home setting. In S. G. Funk, E. M. Tornquist, M. T., Champagne, & R. A. Wiese (Eds.), *Key aspects of elder care: Managing falls, incontinence and cognitive impairment* (pp. 196–204). New York: Springer.

Tobin, G. W., & Brocklehurst, J. C. (1986). The management of urinary incontinence in local authority residential homes for the elderly. *Age & Ageing*, 15, 292–298.

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For more information about the Evidence-Based Literature Review Project, contact the American Occupational Therapy Association, 301-652-6611, x 2052.



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