



## 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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Eustice, S., Roe, B., & Paterson, J. (2000). Prompted voiding for the management of urinary incontinence in adults. *The Cochrane Database of Systematic Reviews*, Issue 2. Art. No.: CD002113. DOI: 10.1002/14651858.CD002113.

#### **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 retraining, and prompted voiding. Prompted voiding involves a routine of asking the resident about the need to use the toilet, and providing assistance to the resident to do so. It involves a higher degree of resident participation and skill (in recognition of the need to void and communication of that to staff) than other behavioral strategies, and can be staff intensive to implement. It has been evaluated primarily in North American long term care facilities, although studies to date have had methodological weaknesses.

#### **RESEARCH OBJECTIVE(S)**

List study objectives.

To determine the effectiveness and efficiency of prompted voiding for the management of urinary incontinence.

Describe how the research objectives address the focused question.

Prompted voiding is one type of routine intervention (toileting routine) used with people with dementia.

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 can not 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 prompted 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.

- Total of six studies were included in the review; however no results were provided in one (Engberg et al., 1997). The sample described included 355 older adults (296 or 83% women), with an average age of 82 years.

<ul style="list-style-type: none"> <li>• Of the six studies included in the review, designs varied but five included randomization and would be considered Level I studies, and one was a pre-post test design with randomization not described (Schnelle et al., 1983).</li> </ul>
<ul style="list-style-type: none"> <li>• Blinding was not reported in the 5 studies included for this review. With a behavioral therapy such as prompted voiding, blinding of the intervention is not possible.</li> </ul>
<ul style="list-style-type: none"> <li>• There was one cross-over randomized trial (Level I) (Ouslander et al., 1995), which compared prompted voiding alone with prompted voiding combined with another therapy (Oxybutinin). Due to the reporting method of this research it was not used in this review.</li> </ul>
<ul style="list-style-type: none"> <li>• All trials included a baseline ranging from 5 days to 2 weeks, while the duration of the interventions ranged from 20 days to 13 weeks. Four of the studies were carried out in the daytime hours from 7 a.m. to 7 or 9 p.m., while one study used a 24-h schedule.</li> </ul>
<ul style="list-style-type: none"> <li>• In three of the trials, research assistants were used to perform the intervention, while two of the studies utilized regular nursing staff.</li> </ul>
<ul style="list-style-type: none"> <li>• The studies provided no evidence for long-term effects of the interventions.</li> </ul>
<ul style="list-style-type: none"> <li>• Data extracted from three trials involving a total of 82 participants in the treatment group and 84 in the control group favored prompted voiding compared to no prompted voiding, although the difference was not statistically significant (OR 0.59; 95% CI 0.31 to 1.14) (Hu et al., 1989; Schnelle, et al., 1983; Surdy, 1992).</li> </ul>
<ul style="list-style-type: none"> <li>• Self-initiated toileting: Only one trial reported data suitable for analysis that found a statistically significant increase in independent requests for the toilet as a result of the prompted voiding intervention (OR 1.9; 95% CI 1.51 to 2.29) (Schnelle et al., 1989).</li> </ul>
<ul style="list-style-type: none"> <li>• Health economic measures: Cost data were reported for two trials. One reported the cost of implementing a prompted voiding schedule as being equal to one hour of time per patient per day (Hu et al., 1989). A second study estimated the cost of implementation to be \$8.51 for a patient receiving prompted voiding, but this was associated with a reduction in other costs of \$23.57 (Surdy, 1992).</li> </ul>

\*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.

- The few data that are available suggest that prompted voiding appears promising for the management of urinary incontinence.
- Two trial reports indicate that there is increased time and cost associated with implementing prompted voiding, but this may be more than offset by subsequent savings.

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.

Prompted voiding is one type of toileting routine that is often implemented for people with dementia living in long term care facilities. This systematic review suggests that prompted voiding may be helpful in reducing incontinence. Occupational therapists and occupational therapy assistants working in these settings and occupational therapy students need to be familiar with the principles of prompted voiding, so that their interventions are planned in order to enable its use. Further, occupational therapists should consider interventions directed toward environmental modifications to promote mobility and safe toilet use in settings implementing prompted voiding.

Further research is needed to determine if prompted 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

- Engberg, S., McDowell, B. J., Donovan, N., Brodak, I., & Weber, E. (1997). Treatment of urinary incontinence in homebound older adults: Interface between research and practice. *Ostomy Wound Management*, 43(10), 18–22.
- Engberg, S., McDowell, B. J., Weber, E., Brodak, I., Donovan, N., & Engberg, R. (1997). Assessment and management of urinary incontinence among homebound older adults: A clinical trial protocol. *Advanced Practice Nursing Quarterly*, 3(2), 48–56.
- Hu, T. W., Igou, J. F., Kaltreider, D. L., Yu, L. C., Rohner, T. J., Dennis, P. J., et al. (1989). A clinical trial of a behavioral therapy to reduce urinary incontinence in nursing homes: Outcome and implications. *Journal of the American Medical Association*, 261, 2656–2662.
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- Ouslander, J. G., Schnelle, J. F., Uman, G., Fingold, S., Nigam, J. G., Tuico, E., & Jensen, B. B. (1995). Does oxybutinin add to the effectiveness of prompted voiding for urinary incontinence among nursing home residents? A placebo-controlled trial. *Journal of the American Geriatrics Society*, 43, 610–617.
- Schnelle, J. F., (1990). Treatment of urinary incontinence in nursing home patients by prompted voiding. *Journal of American Geriatrics Society*, 38, 356–360.
- Schnelle, J. F., Traugher, B., Morgan, D. B., Embry, J. E., Binion, A. F., & Coleman, A. (1983). Management of geriatric incontinence in nursing homes. *Journal of Applied Behavior Analysis*, 16, 235–241.
- Schnelle, J. F., Traugher, B., Sowell, V. A., Newman, D. R., Petrilli, C. O., & Ory, M. (1989). Prompted voiding treatment of urinary incontinence in nursing home patients. A behavior management approach for nursing home staff. *Journal of the American Geriatrics Society*, 37, 1051–1057.
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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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