Behavior management and communication strategies for dental professionals when caring for patients with dementia

Dementia is a collection of symptoms "characterized by the development of multiple cognitive deficits (including memory impairment and at least one of the following cognitive disturbances: aphasia, apraxia, agnosia, or a disturbance of executive functioning) that are due to the direct physiological effects of a general medical condition, the persisting effects of a substance, or to multiple etiologies". The disorders that cause dementia "share a common symptom presentation but are differentiated based on etiology". Alzheimer’s disease is the most common dementia and, together with cerebrovascular disease, is the third leading cause of death in the US. It has been estimated that more than 50% of institutionalized older adults aged 65+ years in the US have Alzheimer’s disease. Residents with Alzheimer’s disease have a length of stay in nursing homes 10 times the US national average for all other medical diagnoses. Previously, multi-infarct (vascular) dementia was ranked as the second most common dementia. However, research during the last decade has identified Lewy Body dementia to be more prevalent than multi-infarct (vascular) dementia, which is now ranked third. Lewy body dementia appears to be a combination, histologically and neurochemically, of both Alzheimer’s disease and Parkinson’s disease. The clinical features and pharmacologic management of Lewy body dementia are distinctive and overlap with those of Alzheimer’s disease and Parkinson’s disease.

The impact of dementia on the communities and health services of industrialized countries is dramatically increasing. Recent geriatric dental research in long-term-care facilities has highlighted the rapid growth in the numbers of institutionalized adults with dementia and their poor oral health status. In a recent longitudinal study in Australian (Adelaide) nursing homes, 80% of residents were assessed as having cognitive impairment, with 55% as having severe cognitive impairment. All of the severely cognitively impaired residents required assistance from staff with their oral hygiene care. In comparison, oral hygiene care assistance for those who were not cognitively impaired was needed for only 10% of dento- rite residents and 45% of denture wearers. Interviews with administrators, Directors of Nursing (DONs), and dental professionals working in long-term-care facilities have illustrated the immense challenges they face when providing dental treatment and oral hygiene care for residents with dementia. As stated by one nursing home administrator, in a recent study by MacEntee et al., "The residents are becoming much more frail...more demented, the whole issue of maintaining oral hygiene is way more difficult than it used to be." Nursing staff have commented that "to care for debilitated patients takes specific skills such as patience and kindness and the ability to cope with confused/dementia patients". However, DONs are concerned that "dentists are unfamiliar with residents with dementia" and "many dentists do not have the skills to care..."
Table 1. General behavior management strategies advocated for use with cognitively impaired adults, from the dental literature.

<table>
<thead>
<tr>
<th>Behavior Management Strategy</th>
<th>Oral premedication (^{21,26,30,34-39,41})</th>
<th>Intra-venous sedation (^{21,26,30,34-39,41})</th>
<th>General anesthesia (^{21,26,34,41})</th>
</tr>
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<tbody>
<tr>
<td>Restraint</td>
<td>Extra-oral mouth props (secured, ratchet, Halley molar prop) (^{21,26,30,31,34,39})</td>
<td>Intra-oral mouth props (traditional and open-wide plus) (^{21,26,30,31,34,37,38})</td>
<td>Physical, gentle hand-holding (^{21,26,30,34,39,41})</td>
</tr>
<tr>
<td></td>
<td>Hand and foot restraints (^{21,37,38})</td>
<td>Stabilization of head (^{20})</td>
<td></td>
</tr>
<tr>
<td>Assistive dental equipment</td>
<td>Toothbrushes (electric, interproximal, Collis-Curve) (^{21,26,31,40})</td>
<td>Mouthtrays for fluoride treatments (^{27-30,41,42})</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chlorhexidine gels or sprays (^{40})</td>
<td>Rubber dam and adequate suction (^{34})</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increased number of dental assistants (^{34})</td>
<td>Increased use of hand instruments (^{34})</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X-ray holders and/or person to hold x-rays (^{21,26})</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>Presence of carer (^{31,37,38,40-42})</td>
<td>Distraction with rolled hand towel or stuffed toy/doll (^{27-30,42})</td>
<td></td>
</tr>
</tbody>
</table>

for these residents\(^{12}\).

Traditionally, geriatric dental research has investigated many influences on long-term-care residents’ poor oral health, including:
- ethical decision-making dilemmas\(^{14,15}\);
- difficulties with dental service provision on-site at facilities\(^{9,12,14,16}\);
- transportation of residents off-site for dental treatment\(^{9,12,16}\);
- formalized periodic dental examinations\(^{11,14,17,18}\);
- difficulty sustaining regular oral hygiene care\(^{14}\);
- inadequate time and staffing for oral hygiene care\(^{12,14,16,19,20}\);
- increasing functional dependence for Activities of Daily Living\(^{10,18,21,22}\);
- residents’ dental fear, their lack of perceived dental need, and financial constraints\(^{12,14,16}\);
- need to improve educational strategies for staff of long-term-care facilities and provide more “hands-on” training in oral hygiene care\(^{12,17,18,23,24}\) and
- need for a more prominent, visible, and ongoing supportive role for dental personnel in long-term-care facilities\(^{14}\).

In addition, the impact of dementia must now be considered as a major influence on residents’ oral health. Many dental reviews have highlighted the complexities involved with the dental management of adults with dementia.\(^{21,25-44}\) These reviews have discussed issues such as:
- the epidemiology, etiology, clinical course, staging, and treatment of dementia;
- medical care, medications and their adverse effects;
- consent, restraint, and ethics;
- carer involvement;
- financial and social support;
- diagnosis of pain and assessment of presenting dental problems;
- treatment planning;
- restorative treatment;
- preventive oral hygiene care;
- sedation and behavioral problems; and
- communication techniques.

Knowledge of all of these issues is essential to the provision of adequate care for cognitively impaired adults. However, it is individual dental professionals’ skills and strategies in behavior management and communication that often determine the course of clinical dental treatment and preventive oral hygiene care provision for patients with dementia. General behavioral management strategies advocated in the dental literature for use with cognitively impaired adults have detailed many sedative and physical approaches in addition to the use of specific types of assistive dental equipment (Table 1). General communication strategies advocated in the dental literature for use with cognitively impaired adults have detailed both verbal and non-verbal approaches (Table 2). Although helpful as general strategies, newer concepts in dementia care can assist dental professionals to update their knowledge and skills, and use a more individualized approach to the management of their patients with dementia.

Newer concepts in dementia care

Philosophies of dementia care are now centered around the individual and advocate the use of non-pharmacological approaches to care wherever possible. As stated by Kovach,\(^{45}\) “people with dementia are heterogeneous in disability, clinical course and treatment success” and “interventions will work for some but not for other people with dementia, and what works today for one person may no longer be effective next week or next month.” The need for preparation and organization with the assessment and treatment of people with dementia is deemed essential, since “creative planning can avoid many difficulties”.\(^{45}\) This requires the involvement of a multidisciplinary team, including dental professionals, dental auxiliaries, office staff, physicians, allied health professionals, and social workers. Successful care of adults with cognitive impairment is not task-oriented but is oriented toward the person with dementia.\(^{46}\)

As stated by Hallberg et al.,\(^{46}\) “Care
that is poorly adapted to patients' resources, loss of abilities and needs, leads to the emergence of behavior seen as disruptive.

**Behavior management strategies**

Disruptive behaviors associated with dementia are usually termed as problematic or challenging. Behaviors may be related to the type and/or stage of dementia. However, there is a wide spectrum of behavioral variability among individuals with dementia. Behaviors may also vary within an individual; some are consistent and follow a regular pattern, some are triggered by specific events, and others have a more variable occurrence. Nursing research has revealed the high prevalence of behavioral problems in long-term-care residents. In several U.S. studies, aggressive and agitated behaviors regularly occurred in over 85% of residents. Recent research has indicated that these behavioral problems are not problems in and of themselves, but are an attempt by the person with dementia to cope and are an adaptive response to internal or external stressors, or to an unfulfilled need or feeling. Feelings of fear and confusion usually precede the behavioral problem. Although behavioral problems are diverse and variable, there are 3 main types occurring in adults with dementia:

- **Verbal**
  - Speech construction: Use short words and simple sentences, use nouns and not pronouns, begin each conversation by identifying yourself and using the person's name/title.
  - Speech style: Speak slowly, clearly, and in a lower voice tone, wait for a response to a question, and ask one question at a time.
  - Non-verbal: Use with verbal communication, stand in front/side of person in his/her line of vision, maintain eye contact, move slowly and calmly, move alongside the person if he/she moves.

- **Other**
  - The presence of a carer is helpful, break down tasks/activities into steps, present only one idea at a time.
  - Use praise and positive responses, distract person to assist with personal care activities.
  - Avoid sensory overload, maintain patience and a reassuring attitude, develop rapport.
  - Decrease the number of people in the room, enlist the resident's participation.
  - Explain procedures before performing them.

The most common causes of behavioral problems in adults with dementia include medical and physical causes, environmental causes, task-related causes, and communication causes (Table 3). However, there can be multiple possible etiologies for specific behavioral problems.

**Table 2. General communication strategies advocated for use with cognitively impaired adults, from the dental literature.**

<table>
<thead>
<tr>
<th>Communication Strategy</th>
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<tbody>
<tr>
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<td>Decrease the number of people in the room.</td>
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</tr>
<tr>
<td>Explain procedures before performing them.</td>
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</tbody>
</table>
Table 3. Causes of behavioral problems in adults with dementia.45,55

<table>
<thead>
<tr>
<th>Medical and Physical Causes</th>
<th>Environmental Causes</th>
<th>Task-related Causes</th>
<th>Communication Causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication adverse effects</td>
<td>Environment too large</td>
<td>Tasks too complicated</td>
<td>Not understanding others</td>
</tr>
<tr>
<td>Impaired vision or hearing</td>
<td>Environment too cluttered</td>
<td>Too many steps combined</td>
<td>Not able to make themselves understood</td>
</tr>
<tr>
<td>Acute illness and infections</td>
<td>Excessive stimulation</td>
<td>Task not modified for increasing impairment</td>
<td></td>
</tr>
<tr>
<td>Chronic illness and pain</td>
<td>No orientation information or cues</td>
<td>Task unfamiliar</td>
<td></td>
</tr>
<tr>
<td>Dehydration and constipation</td>
<td>Poor sensory environment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression and fatigue</td>
<td>Environment unstructured</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical needs not being met</td>
<td>Environment unfamiliar</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- decreasing environmental stressors,
- meeting primary self-needs,
- increasing quality and quantity of social interactions, and
- balancing inner-retreat time with active time.45

The Progressively Lowered Stress Threshold Model developed by Hall and Buckwalter50 has greatly aided the understanding of behavioral problems in people with dementia. This model advocates the minimization of environmental stimuli around people with dementia, since they have less ability to receive and process stimuli and cannot tolerate stimuli as well as can non-cognitively impaired people. People in the mid-stage of dementia are the most sensitive to their environment,44 and research has shown that their problem behaviors can be reduced by decreasing extraneous stimuli.31 If a person with dementia has a dental appointment, whether at a long-term-care facility or at a dental clinic, the dental staff and physical environment should be well-prepared for the visit52 (Table 4). Discussions with carers before the dental appointment will greatly assist with the minimization of behavioral problems. Carers are the best source of information concerning any environmental modifications or behavioral interventions useful for the person with dementia. Information can be gained about the best day and time of day for the visit, transport issues, any stressful stimuli to be modified (noise, mirrors, televisions, etc.), need for privacy, need for toileting, minimizing waiting times, restraint issues, and familiarization with dental staff.52

Behavioral problems can also occur if the patient's primary self-needs (basic physical, comfort, and security needs) are not met. In the clinical dental situation, whether at a dental clinic or long-term-care facility, the room temperature needs to be comfortable and the environment private. Blankets or cushions can be provided as needed for comfortable positioning of the person in the dental chair, wheelchair, or other chair to be used. The presence of a carer and the use of gentle touch, familiar tactile objects, or music will help to create a secure and caring environment. Spending a short time in quiet conversation with the carer and person with dementia before starting any dental procedures will also assist with creating a safe and caring environment.52 Rest periods often may be needed during treatment, and, if appropriate, the person may be removed from crowded waiting rooms to a quieter location. People must be allowed to display their behaviors and not internalize them,
so be prepared to re-appoint patients if emotional and physical signals convey their need for inner retreat time or removal from the dental environment. Knowledge of the person’s previous dental attendance patterns and oral hygiene care practices will assist with preventive treatment planning.52

As dementia progresses, people exhibit neurological reflexes or involuntary motor responses that are a problem for carers and dental professionals when they interfere with eating, swallowing, oral hygiene care, and dental treatment. When attempts are made to access the mouth, touch the teeth or dentures, or introduce food or liquid, the person responds by grinding, chewing, sucking, pouting, and/or biting.45 The reflexes can also be elicited visually and, if a problem is detected, should be terminated by physical pressure and manipulation. Tactile facilitating techniques use the reflexes to advantage to gain access to the mouth. A toothbrush bent backward at a 45-degree angle can be slid into the angle of the mouth and firmly held against the cheek to break peri-oral muscle spasms and assist carers with the removal of plaque and debris (Fig 1).52 Firm pressure can also be applied to perseverating oral musculature affected by tardive dyskinetic movements, and also to the chin and lips for chewing, sucking, and pouting reflexes.45 Toothbrushes and soft intra-oral mouthprops are useful during a dental examination or treatment, when the chewing or biting reflex cannot be easily broken. In dementia patients with swallowing problems, therapeutic mouthrinses,

Table 4. Interventions for the prevention of behavioral problems.45,54

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Decreasing environmental stressors</th>
<th>Meeting primary self-needs</th>
<th>Increasing quality and quantity of social interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Simplify environment and limit choices.</td>
<td>- Ensure that person is comfortable.</td>
<td>- Look to person’s lifestyle and preferences to ensure that person is not bored or frustrated.</td>
<td></td>
</tr>
<tr>
<td>- Decrease multiple stressors.</td>
<td>- Ensure that positioning is comfortable.</td>
<td>- Respond to their emotions.</td>
<td></td>
</tr>
<tr>
<td>- Remove person from stressful situations.</td>
<td>- Offer activities person is capable of managing.</td>
<td>- Do not force person to do activities.</td>
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<tr>
<td>- Allow time for responses.</td>
<td>- Use task breakdown.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Offer activities person is capable of managing.</td>
<td>- Maintain consistency of carers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Use task breakdown.</td>
<td>- Observe patterns during activities.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Maintain consistency of carers.</td>
<td>- Keep a consistent routine and daily rituals.</td>
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<tr>
<td>- Schedule activities around stressful times.</td>
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<td></td>
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</tbody>
</table>

Table 5. Newer communication techniques for people with dementia.45

<table>
<thead>
<tr>
<th>Technique</th>
<th>Dental Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rescuing</td>
<td>The dentist is unable to remove the resident’s dentures, so a carer enters, takes over, and removes the dentures.</td>
</tr>
<tr>
<td>Distraction</td>
<td>A rummage box or busy apron/cushion/board (with a familiar theme) is used to occupy the active hands of a resident during the examination.</td>
</tr>
<tr>
<td>Bridging</td>
<td>The resident holds a toothbrush while the dentist uses a backward-bent toothbrush to assist in breaking peri-oral muscle spasms to gain access to the oral cavity.</td>
</tr>
<tr>
<td>Hand-over-hand</td>
<td>The dentist places the lower denture in the resident’s hand then places his/her hand over the resident’s to guide the lower denture back into the mouth.</td>
</tr>
<tr>
<td>Chaining</td>
<td>A hygienist or carer places the toothpaste on the toothbrush and places it in the resident’s hands, and then the resident brushes his/her teeth.</td>
</tr>
</tbody>
</table>
such as fluorides and chlorhexidine gluconate, can be applied to teeth and periodontal tissues by means of small atomizers or spray bottles.\textsuperscript{52} Minimizing plaque accumulation on the teeth and dentures in these patients is essential, especially in the later stages of dementia, to decrease the risk of developing aspiration pneumonia.\textsuperscript{53}

Pharmacological management of behavioral problems is required for some cognitively impaired adults and can be effective.\textsuperscript{54} However, the adverse effects of the medications used in dementia can be variable and extreme, and not all individuals react similarly to these medications.\textsuperscript{45,55} A diverse range of antipsychotic (neuroleptic), antidepressant, anti-anxiety, anticonvulsant, and anti-Parkinsonian medications has been used to manage behavioral problems.\textsuperscript{45} Dental professionals should be aware that many of the newer medications have fewer adverse effects. For example, the occurrence of tardive dyskinesia is much lower with the newer antipsychotic medication Risperidone. Antipsychotic medications must be carefully used in patients with Lewy body dementia, since these patients have a hypersensitivity to these drugs.\textsuperscript{45} Any modification to a medication regime for the dental treatment of a cognitively impaired person must be managed in liaison with medical practitioners and carers.\textsuperscript{21,53,55} However, dental professionals should also be aware that additional medication types or doses may not always improve behavioral problems with dementia patients, and indeed may potentiate and increase them.\textsuperscript{43,45}

**Communication strategies**

Quantitative and qualitative dementia research has improved our understanding of the communication bridge between people with dementia and their carers. “People with dementia know intuitively whether they are being accepted by a carer-caring touch, gentleness, speed of movement, tenderness of voice, and body posture do not escape their sensitive awareness.”\textsuperscript{45} Table 5 presents newer communication strategies that highlight how people with dementia communicate via inconsistencies that do not conform to the symptom-based descriptions of dementia stages.\textsuperscript{45} Dental professionals can easily adapt these communication strategies to the dental environment. The communication techniques presented in Table 5 have been successfully used by the author in both geriatric dental research and clinical situations to examine cognitively impaired older adults with mild, moderate, or severe dementia.\textsuperscript{12}

The rescuing technique can utilize dental personnel and carers to facilitate the completion of a dental examination, dental treatment, or oral hygiene care that may otherwise be terminated (Table 5).\textsuperscript{35} The usefulness of the distraction technique has been previously described (Tables 1, 2). Newer physical distraction techniques can help to keep active hands occupied. These techniques include using creative rummage boxes and busy aprons/cushions/boards with a theme familiar to the person with dementia (Fig 2). Many long-term care facilities use these items, and carers can be asked to bring them to the dental appointment. These boxes, aprons, cushions, and boards can be custom-made or purchased commercially. Towel-covered foam handgrips are also useful for patients with dementia to hold. U-shaped pillows placed in front of a seated patient can be a useful distraction. Distraction uses not only physical objects, but also touch, massage, talking, singing, and music. With the bridging technique, a spare denture or a toothbrush is placed in the hands of the person with dementia to help him/her focus on the dental examination (Table 5). The hand-over-hand technique and chaining technique are both extremely helpful for the encouragement of independence. In the hand-over-hand technique, a carer’s hand is placed over the hand of the person with dementia to guide him/her through a task (Table 5). In chaining, a carer initiates the activity, and the person with dementia can then complete the activity (Table 5). Chaining is often required to assist people to change position or move. Many people with dementia do retain skills to perform an activity partially, and these techniques provide the encouragement and assistance they need to guide them through a task.\textsuperscript{45}

Task breakdown has been briefly mentioned in the dental literature to assist with communication (Table 2). It is one of the most useful strategies to improve communication with cognitively impaired adults. As dementia progresses, activities need to be broken down into smaller and smaller steps to allow the person with dementia to tackle one step in the
activity/task at a time. Task breakdown also requires assessment of which steps the person is able to do and to encourage those. For example, the concept of “brushing my teeth” can be overwhelming and abstract for a cognitively impaired person. The task has more chance of being successfully completed if it is broken down into smaller steps, such as taking the lid off the toothpaste, picking up the toothbrush, squeezing out the toothpaste, putting the toothpaste on the toothbrush, lifting the toothbrush to the mouth, etc. This strategy is also helpful in other dental situations, including when orienting a person with dementia to a dental clinic, when seating the patient, when taking intra-oral radiographs, during all dental treatment procedures, and when giving oral hygiene care instructions. For example, if a patient with mid-stage dementia was asked to “take a seat” in the waiting room of the dental clinic, they may literally interpret the statement and reach out to pick up the chair. The person would better understand and interpret a series of short, specific instructions, such as, “turn toward me, place your hands on the chair arms, bend your knees, sit down in the chair.”

**Conclusion**

Dental professionals and carers face immense challenges when providing dental treatment and oral hygiene care for adults with dementia. To care for patients with dementia, the involvement of a multidisciplinary team is essential, including dental professionals, dental auxiliaries, office staff, physicians, allied health professionals, and social workers. Newer philosophies of dementia care now enable more individualized and non-pharmacological approaches to be used for the provision of dental care. There is a focus on the prevention, in addition to the management, of problem behaviors, with interventions used to decrease stressful environmental stimuli, meet the primary self-needs of people with dementia, increase the quality and quantity of their social interactions, and balance their inner-retreat time with active time. Newer communication strategies highlight how individuals with dementia communicate in ways that do not necessarily conform to the symptom-based descriptions of dementia stages. The use of rescuing, distraction, bridging, hand-over-hand, and chaining techniques can facilitate the successful completion of a dental examination, dental treatment, or oral hygiene care that may otherwise need to be terminated. Task breakdown is one of the most useful strategies to improve communication with cognitively impaired adults, and involves the breaking down of activities into smaller steps to allow the person with dementia to tackle one step in the activity at a time. Dental professionals can easily adapt these communication strategies to the dental environment. Improved knowledge and teaching of these behavior management and communication strategies will assist and encourage dental professionals to care for patients with dementia.

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Dr. Chalmers is Research Officer, AIHW Dental Statistics and Research Unit, The University of Adelaide, Australia (jane.chalmers@adelaide.edu.au).

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