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Australian Research Centre for Population Oral Health

Dementia
Oral Health Care for the Elderly

Colgate Dental Education Programs | Special topic No. 9

Oral health clinicians are often confronted with new challenges presented by the elderly because they not only have poor oral health but also present with a multitude of complex situations. Considering these factors in the treatment plan, and knowing the means of managing complex situations, enables the oral health clinician to deliver the most appropriate care for the elderly[1].

Demographic changes

It is projected that the world's population aged 65+ will increase from 550 million in 2000 to 973 million in 2030. The population of Australia is ageing with around 1 in every 7 aged 65+. In the last 25 years, and as a proportion of the population, those aged 65+ have increased from 10.5% to 14% and those aged 85+ from 0.8% to 1.9%.

Oral Health among the elderly

The Australian National Survey of Adult Oral Health 2004–06 showed that the edentulous rate among the general adult population had dropped 7% from 1987–88 to 2004–06 and the reduction was most pronounced among those aged 65+ years (>22%). The prevalence of those aged 65–74 years with <21 natural teeth (inadequate natural dentition) decreased 28% over the 17 years[2].

When older adults continue to retain their natural teeth, they tend to have poor oral health. The prevalence of periodontal disease and coronal caries was markedly higher among community-dwelling older adults compared to young adults[2]. The oral health among older adults in Residential Aged Care Facilities (RACFs) is even poorer than their community-dwelling peers[3]. There is an increase in denture-related oral mucosal infections (such as candidal infections) among residents. Research has shown that, over time, residents' dental plaque levels rise to exceedingly high levels, dramatically increasing residents' risk for developing aspiration pneumonia. Residents experience high levels of periodontal disease, caries on the coronal and/or root surfaces and xerostomia[4–7]. There is now a greater need for preventive, diagnostic and restorative dental services, due to the increased retention of teeth.

While the elderly experience a myriad of physical and mental health challenges, dementia, usually due to Alzheimer's disease, is becoming increasingly common and will be the focus of this brochure.

Dementia

Dementia is a syndrome associated with >100 different diseases that are characterised by the impairment of brain functions; including language, memory, perception, personality and cognitive skills[8]. Although the type and severity of symptoms and their pattern of development varies with the type of dementia, it is usually of gradual onset, progressive in nature and irreversible.

Almost 300,000 Australians suffered from dementia in 2011, of which 62% were women, 74% were aged 75+ and 70% lived in the community. More than half (53%) of permanent residents in RACFs had dementia. The overall number of people with dementia is projected to triple by 2050.

The disorders that cause dementia "share a common symptom presentation but are differentiated based on etiology". Alzheimer's disease is the most common type of dementia, accounting for about 50% to 75% of dementia cases worldwide. There are other types of dementia, including vascular dementia, frontotemporal dementia, and dementia with Lewy bodies.

Dementia is characterized by three stages based on the Clinical Dementia Rating (CDR) scale.

Table 1. An overview of the stages of dementia

Stage	Description
Mild (55% of people with dementia)	Deficits are evident in a number of areas (such as memory and personal care) but the person can still function with minimal assistance. Symptoms include: moderate memory loss especially for recent events, some disorientation in time, moderate difficulties with problem-solving, reduced interest in hobbies, and the need for prompting regarding personal care tasks.
Moderate or middle (30%)	Deficits become more obvious and severe, and increasing levels of assistance are required to help the person maintain their functioning in the home and community. Symptoms include: severe memory loss, considerable difficulty orienting to time and place, obvious difficulties in finding words, severe impairment of judgment and problem-solving, need for assistance with personal care tasks, and emergence of behavioural difficulties (for example, wandering, aggression, sleep disturbance and disinhibited behaviour).
Severe or late (15%)	Characterized by almost total dependence on the care and supervision by others. Symptoms include: very severe memory loss, very limited language skills, unable to make judgments or solve problems, regularly not recognizing familiar people, frequent incontinence, requires substantial assistance with personal care, and increased behavioural difficulties. By this stage the majority of people with dementia are in residential care.

Communication strategies

Communication with cognitively impaired older adults may be a challenge for dentists. To assist with successful completion of dental care, the use of multiple communication forms, maintenance of sensory contact, and the following verbal interactions are useful strategies[9].

Table 2. Communication techniques for people with dementia[9]

Techniques	Examples
Rescuing	The dentist is unable to remove the resident's dentures, so a carer enters, takes over, and removes the dentures.
Distraction	A rummage box or busy apron/cushion/board (with a familiar theme) is used to occupy the active hands of the resident during the examination.
Bridging	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.
Chaining	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.

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Informed consent

Dentists must obtain the consent from a person with the legal capacity to provide the consent before dental procedures can be undertaken. There are some older patients with illnesses or conditions affecting their capacity to understand the information, make decisions on treatment and/or participate in the process of consent (i.e. people with dementia).

If there is doubt about the patient's ability to comprehend, and/or make an informed decision, the dentist should obtain further clinical advice on the patient's capacity and/or seek the consent of a legally authorized substitute decision-maker, or apply for approval from an appropriate legal tribunal, body or court.

In order to allow for necessary treatments to proceed for patients unable to make the decisions themselves, there is legislation in place in all jurisdictions to allow for substituted consent by a hierarchy of decision makers:

For example, section 33A of the Guardianship Act 1987 (NSW) states as follows:

There is a hierarchy of persons from whom the person responsible for a person other than a child or a person in the care of the Director-General under section 13 is to be ascertained.

That hierarchy is, in descending order:

a. the person's guardian, if any, but only if the order or instrument appointing the guardian provides for the guardian to exercise the function of giving consent to the carrying out of medical or dental treatment on the person;

b. the spouse of the person, if any, if:
   (i) the relationship between the person and the spouse is close and continuing, and
   (ii) the spouse is not a person under guardianship;

c. a person who has the care of the person;

d. a close friend or relative of the person.

Operation of hierarchy will be implemented if:

a. a person who is, in accordance with the abovementioned hierarchy, the one responsible for a particular person who declines in writing to exercise the functions under this part of a person responsible, or

b. a medical practitioner or other person qualified to give an expert opinion on the first person's condition certifies in writing that the person is not capable of carrying out those functions, the person next in the hierarchy is the person responsible for the particular person.

An enduring power of attorney enables the nominated person, as the attorney for the patient, to make health treatment decisions for the patient when the patient becomes incapable of doing so for themself.

The usual principles governing consent do not apply to emergency situations where immediate treatment is necessary in order to prevent a serious and imminent injury to a person's health.

Rational Dental Care

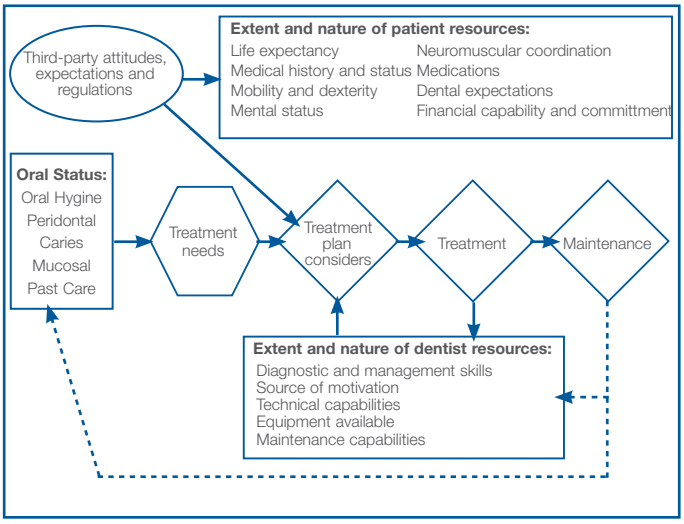
The concept of Rational Dental Care was developed by Ettinger and Beck[10] (Figure 1) when it was found that idealized treatment plans for older people, especially frail and functionally dependent older people, were often inappropriate. They explained that individualized care should occur only after all the modifying factors have been evaluated and this approach is much more appropriate than 'technically idealized dental care'. For example, the amount of stress involved in implementing an idealized treatment plan could pose health risks to some older medically compromised patients and limit the potential benefit of the treatment, thus making it inappropriate, or a patient's medical or cognitive status might make it impossible to deliver such idealized care.

Modifying factors that should be evaluated in preparing a rational treatment plan:

- The patient's desires and expectations
- The type and severity of the patient's dental needs
- How the patient's dental problems affect his or her quality of life
- The patient's ability to tolerate the stress of treatment (his or her mental and medical status, as well as mobility)
- The patient's ability to maintain oral health independently
- The probability of positive treatment outcomes
- The availability of reasonable and less extensive treatment alternatives
- The patient's financial status
- The clinician's ability to deliver the care needed (skills and available equipment)
- Other issues (for example, the patient's lifespan, family influences and expectations and bioethical issues).

If patients are physically disabled or cognitively impaired, dentists need to understand their wider needs, such as how they function in their environments with their medical problems, pharmacotherapy, and their social support systems, as well as how oral health care fits into their environment.

Figure 1. Model for rational dental care for older patients[11]



Practical dental management tips

Initial dental visit

It is necessary to include the assessment of an elderly patient's medical history, medications, functional status, cognitive status, behavioural issues and social support in the initial dental visit and take these factors into account before making a treatment plan.

Generally dentists initiate a systematic dental examination method (such as starting with the upper right third molar and finishing at the lower right third molar). However, with cognitively impaired patients, dentists may need the flexibility to access any area of the mouth that is visible or accessible at any time. The anterior teeth may need to be examined before the posterior teeth, and if patients have cognitive impairment and difficult behaviour, like those with dementia, dentists may need to adopt particular strategies, for example, using a bent toothbrush, to assist with accessing the mouth and breaking oral muscle spasms. If the elderly patient cannot hold his/her mouth for a long period of time, a mouth prop can be used.

Bent Toothbrush

Mouth Prop

Working as a team

Functional dependence and/or cognitive impairment, if any, might impair elderly peoples' self-care ability and put them at high risk for developing oral diseases. The elderly may depend on their carers (like spouse or other family members) for their daily activities. In addition, carers can inform you of their concerns or any change they noted in the elderly person's mouth, who can give consent, medical conditions and medications and any behaviour change of the elderly person and try to help the dentist during the dental procedure. Working with their carers and other health professionals (like the patient's General Practitioner) in a team approach can help deliver dental care smoothly and successfully.

Instruction for daily oral care

Daily oral care is vital for all the elderly people. For those who depend on their carers for their daily activities, you need to educate the carers to integrate daily oral hygiene activities into their daily activities. Such instructions include the following aspects as necessary:

1. Tooth brushing

> Brush carefully around the whole mouth angling the brush bristles toward the gum and then brush the chewing surfaces of the teeth
> Keep brushing teeth twice a day as a routine
> Some elderly, i.e. those with arthritis might need a powered toothbrush.

2. Denture care

> Leave out denture overnight when possible
> Thoroughly brush denture with commercial denture paste or soap, especially at night
> After cleaning, soak denture overnight in clean water.

3. Relief of dry mouth if any

> Drink water to keep mouth moist when possible
> Apply dry mouth relief gels or spray to lubricate dry mouth.

Diet

> It is important to instruct your elderly patients (or via their carers) to:
> Eat a healthy diet
> Control sugar in the diet
> Clean the teeth after the meal (i.e. drink tap water after taking food in order to rinse mouth).

Fluoride

> Ask your patients to drink fluoridated tap water if it is available
> High Dose Fluoride toothpaste is suggested to be used twice per day for those at high risk for caries. Take a pea size amount of the toothpaste and gently brush around all surfaces of teeth.
> Applications of fluoride varnish every three or six months are suggested for those at high risk of caries.

Atraumatic restorative treatment (ART)

> The Atraumatic Restorative Treatment (ART) technique is an innovative, largely pain-free, minimal intervention approach for treating carious teeth.
> The procedure of ART is simple.
> Sharp hand-instruments are used to gain access and to excavate soft caries.
> Preparations are not extended to remove any adjacent tissues.
> Moisture control is achieved with cotton rolls.
> Syringe is not used.
> Glass-ionomer cement (GIC) is mixed and applied into the cavity.
> Firm finger pressure is applied over the surface or a clear cellulose matrix can be used when building up the contour of the restoration[12].
> In a randomised clinical trial testing, the ART approach in treating root caries in elders living in Hong Kong residential and nursing homes, achieved 12-month survival rates of 91.7% for conventional restorations (via drilling and filling) and 87.0% for ART restorations[13].

Case Challenge

Patient details

Maisy Curran is an 80-year old resident at a nursing home. According to her husband, Sam Curran, Maisy was admitted to the nursing home nine months ago.

Presenting problem

Recently, a carer at the nursing home noticed that Maisy became agitated whenever she had a cold drink. The carer notified Sam about this who then requested a dentist to see Maisy at the nursing home.

Medical history

Maisy has middle-stage Alzheimer's disease according to Sam. Since she was admitted to the nursing home nine months ago, she has taken to wandering around the corridors of the nursing home. Sam usually visits Maisy every second day. She needs some help with eating, bathing, toileting, and washing. She no longer seems to recognize Sam or other family members. Recently, she has become more and more aggressive and agitated, for example, shouting at carers and others, especially when they make physical contact. According to the nursing home's record, Maisy takes Reminyl 12mg bid, to improve memory, awareness, and the ability to perform daily functions.

Past dental history

Maisy had upper and lower partial dentures made four years ago but she never wears them. Each time Sam visits her, he tries to brush her teeth but Sam is not sure if the carers brush her teeth at other times.

Dietary history

Maisy has taken to sucking on lollipops and eating chocolates since entering the nursing home as it makes her feel happy, and Sam usually offers these to her. The carer also mentions that Maisy likes coffee or tea with two teaspoons of sugar at tea time.

Social history

Maisy has been married to Sam for 55 years. She was a housewife after getting married. Maisy and Sam have two daughters who have moved to other states and usually visit them at Christmas each year.

Oral examination

With Sam's presence during the oral examination, Maisy was quite cooperative. To access Maisy's mouth, the clinician asked her to hold her own toothbrush and Sam helped to hold her other hand. A bent handled toothbrush was used to better access her mouth and allow an oral examination using a portable light. The clinician stopped the examination any time Maisy became agitated.

Clinical findings (See Figures 1 and 2):

- Soft tissues appeared healthy in general.
- Moderate to abundant accumulation of plaque and soft debris on most tooth surfaces.
- Gingival recession evident at buccal and proximal surfaces on majority of teeth.
- Clinical observation of 12B, 21D, 22B, 23B, 24B, 42B, 43B, 44B revealed obvious caries lesions on root surfaces.
- Mouth appeared dry.
- Presence of attrition.

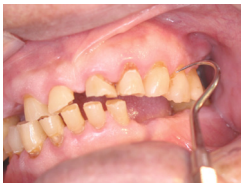


Figure 1: Picture taken after plaque and debris were wiped clean with gauze

R								L							
18	17	16	15	14	13	12	11	21	22	23	24	25	26	27	28
X	X		X	X	X								X	X	X
48	47	46	45	44	43	42	41	31	32	33	34	35	36	37	38
X	X	X								X	X	X		X	X

X - Missing tooth

Figure 2: Odontogram

Issues that need to be considered before formulating Maisy's treatment plan:

- Maisy may not be able to directly tell you of her dental problems, and you may need to rely on your clinical skills and experience to diagnose her problems. The family member/carer may be able to provide valuable information/clues to assist you in your diagnosis. In this case, the carer noticed that there seemed to be a sensitive reaction in Maisy's teeth to cold stimulus. This clue may help you find the cause of the symptom – root caries.
- Behavioural changes due to the dementia can present challenges in care planning. Behaviours can also be unpredictable. Simple, relatively quick, non-invasive treatment (i.e. topical fluoride application) or minimally invasive procedures such as Atraumatic Restorative Treatment (ART) are likely to be less risky and better tolerated.
- Assessment of the presence of risk factors such as dietary factors, oral hygiene factors and physiological factors (dry mouth) for dental caries should be undertaken. Options to control the risk factors should encompass a client-centred approach where feasible options should be explored with the full participation of Maisy and/or her support crew. Strategies to limit intake of cariogenic foods should be explored with Maisy and her carers.
- Maisy requires assistance with daily living and her oral hygiene routine will depend on the assistance that can be provided to her. Sam visits her every second day and can assist with brushing her teeth only during these visits. Thus, to improve her oral hygiene, it is vital to educate, support and assist in the development of strategies that carers can implement to support Maisy's oral hygiene routine.
- Dry mouth could be due to many reasons. The medication that she is taking may have dry mouth as a side effect. A discussion with Maisy's GP should be undertaken to explore the possibility of altering the dosages of this medication, or changing to one with a minimal dry-mouth side-effect. Artificial saliva may be prescribed along with encouraging increased water intake.
- Maisy should not be required to wear her partial dentures as she may have reached a stage where she is no longer able to adapt due to declined cognitive status.

Your preferred management plan

We encourage you to consider the case presented and make notes in the space provided on the management strategy that you would adopt.

Management Plan:

Treatment:

Recalls:

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