Dementia and Your Teeth

Good dental care is generally considered to be a shared responsibility between the individual and their dental provider together with the maintenance of a healthy diet. However, as dementia progresses, the ability of the individual to look after their teeth decreases. Lack of oral care can lead to accelerated tooth decay and dental abscess formation as well as gum infections which can then impact on general health and quality of life. Oral pain and discomfort can be devastating, compounding psychosocial problems, disrupting family dynamics and frustrate nursing home staff and carers. As appearance, function and comfort suffers so may an older person’s self esteem, dignity and confidence.(1)

Why are Teeth Important?
Maintaining healthy teeth throughout life benefits diet, nutrition, general health and well-being of the individual. In many societies the appearance of an individual’s teeth reflects a person’s social standing. When we smile we show our teeth. Damaged, discoloured or missing teeth may cause embarrassment and affect communication with others. Almost two thirds of the respondents in a Dutch study reported that the appearance of their teeth contributed positively to their happiness.(2)

Teeth for Life
In many parts of the world people are living longer. Western countries in particular have seen average life expectancy for both males and females born today increase by nearly 30 years when compared to those born in the early 1950’s. Instead of having few natural teeth in older age as in the 1950’s, older people today retain many natural teeth. Whether this is a result of fluoridated water, better nutrition, a greater understanding of the benefits of looking after one’s teeth and gum health, better dentistry or any combination of these factors doesn’t seem to matter much when you are older. By this stage there are numerous health issues, countless medications being taken, cognitive and fine motor functional deficits, all of which limit the ability of many older people to practice good oral and dental care. Healthcare in old age becomes difficult when frailty and dependency disturbs life’s routines, such as oral hygiene and attending a dentist.(3) Residents with dementia in nursing homes may find that oral health deteriorates quite rapidly, (4) primarily due to a lack of access to dental care.

Better oral and dental health in the elderly leads to:

- Better nutrition
- Increased confidence
- Better socialization
- Better communication
- Better overall health(5)

Saliva is Important in Reducing Tooth Decay
Tooth decay is basically a bacterial infection that causes demineralisation of tooth structure by producing an acidic environment in the mouth. Every time we eat or drink our teeth undergo reversible demineralisation. Good habits, such as brushing twice daily, drinking fluoridated water, if available, regular rinsing, flossing and cleaning between teeth, limiting sugary foods
and drinks all lead to a reduction in tooth decay and gum disease. With adequate saliva and good oral care and diet, tooth decay will not progress; however, as we age our ability to produce saliva gradually diminishes. Production of saliva is also affected by a wide range of medical conditions and medicines that can make the mouth very dry rapidly. A dry mouth may affect taste, speech, nutrition and the ability to wear dentures by causing discomfort and irritation, poor retention and increased oral thrush. Saliva contains components which reduce harmful bacteria, decrease the risk of infection in the mouth and neutralise acids produced from food by the bacteria. Its main contribution is the ability to cleanse the teeth and soft tissues and to lubricate the mouth allowing for swallowing and the easy passage of food. These protective benefits of saliva are lost when the quantity and quality of saliva is diminished. As the mouth becomes dry the oral environment becomes more acidic and leads to an increased incidence of thrush and gum disease. Without adequate saliva to bathe the teeth rapid dental decay can occur, especially around the neck region of teeth. The tooth root surfaces, which are relatively soft, become exposed and are highly susceptible to decay. Decay associated with dry mouth may begin as spotty white areas which eventually encircle the entire tooth or undermine existing fillings if left untreated.

What Causes Gum Disease?
The major cause of gum disease is dental plaque. Plaque is the sticky, colourless film containing bacteria that build up on teeth. The bacteria in plaque cause irritation of the gums that support the teeth. This irritation can lead to inflammation and infection that can destroy gum and underlying bone. When plaque is not removed it becomes hard over time eventually becoming a rough deposit called calculus which can adhere to the teeth.

Link Between Gum Disease and Alzheimer’s
Antibody levels to the bacteria involved with gum disease have been demonstrated to be higher in those with Alzheimer’s and as inflammation associated with gum disease have been found in the brain it may be a potential trigger for the disease. As the costs associated with maintaining a clean and healthy mouth are miniscule compared to the costs associated in managing Alzheimer’s, oral and dental care must be part of every older person’s care plan. A clean and healthy mouth is a priority for the elderly.

Caring for Teeth When We Get Older
Today’s elderly have generally placed a much higher value on good health than in previous generations, including oral and dental health. Frail older people are positively influenced by natural teeth and this effect seems to increase with increasing frailty. Preservation of teeth contributes to a positive body image and self-worth. Oral care for the elderly should aim to preserve as many functional teeth as possible. Many elderly have had good regular dental care and in many instances complex dental procedures. However, when we combine the effects of a dry mouth, cognitive impairment, poor fine motor skills, a poor swallowing reflex and a lack of motivation, the mouth can become a reservoir for the bacteria associated with aspiration pneumonia which is one of the leading causes of death in the elderly. This is a higher risk in those who are chronically or terminally ill and as the same bacteria found in the mouth around teeth and poorly maintained dentures are linked to this particular pneumonia both false and natural teeth and gums need constant care. Improving oral care by brushing after each meal, cleaning dentures once a day and professional oral care weekly seems the best intervention to reduce the incidence of aspiration pneumonia.

Poor Oral Health - a Global Problem
The World Health Organisation (WHO) has expressed concern that the oral health of older people is widely neglected. Based on a global survey of older people WHO has called for public health action by strengthening health promotion, integrating disease prevention and improving age-friendly primary oral health care. Exclusion of cognitively impaired older adults in the
past has led to widespread under reporting of poor oral health status. As mouth cancers are generally age and there is no diagnostic screening available as we have for bowel, breast, cervical and other cancers regular dental visits may also pick up early mouth cancers which could be treated conservatively.

Ways to Maintain a Healthy Mouth
- Brush morning and night using high fluoride toothpaste, when available, on a dry tooth brush.
- After brushing with toothpaste do not rinse out. This allows longer exposure of teeth to the fluoride.
- Use a soft tooth brush on the gum line and tooth surfaces.
- Keep the mouth moist at all times by hydrating with continuous sips of water or applying an artificial saliva product.
- Daily use of an antibacterial mouth rinse, spray or gel but avoid using mouth rinses containing alcohol as they have a drying effect on the gums.
- Reduce the amount of sugar, cakes, confectionary and sugary drinks consumed.
- Encourage ‘swish and swallow’ by providing water after all food and drinks.

Ways to Help
The amount of assistance a carer or relative needs to provide depends on the stage of dementia.
- Early or mild stage - the individual may require no assistance.
- Mid stage - the individual may require some degree of reminding or supervision.
- Late stage - the individual will require supervised oral care.

How to Improve Access to the Mouth
People with mid to late stage dementia often exhibit neurological reflexes or involuntary responses that can be a problem when attempts are made to access the mouth, teeth or dentures such as closing their lips, clenching their mouth, biting or moving their head.

The most useful strategy to improve communication with cognitively impaired adults is to break the task down into small achievable steps.

Consider:
- Developing a routine with daily oral hygiene care at the same time every day.
- Using short simple sentences and directions. Use reminders and prompts. A small amount of toothpaste on the individuals lip may prompt them to open their mouth.
- A towel placed around the individuals neck like a bib can be held by one corner to protect the caregiver from the individual spitting at them.
- A toothbrush bent backward at 45 degrees may help with clenching. Slide the toothbrush into the corner of the mouth.
- Using a three sided, surround toothbrush or an electric tooth brush will make brushing easier for those with limited hand control.
- Distract the individual by singing, getting them to hold an item or gentle touch and talking
- Chaining Technique, the caregiver starts brushing the individual’s teeth and the individual takes over
- Bridging Technique, to improve sensory connection. The individual holds a toothbrush while the caregiver brushes the teeth
- Hand over hand, the caregivers hand is placed over the individuals hand to guide them through the task of tooth brushing.
- Rescuing Technique, a second caregiver or person enters a situation and offers to “help” the individual by taking over for the initial caregiver.
- Getting the individual to say “EEEEEE”, enables the caregiver to clean between the teeth, using interdental brushes or tooth picks. Brushes can be dipped in mouth rinse. Never place fingers between teeth.

**What About Dentures?**
A component of good daily oral hygiene is the removal of dentures overnight to allow the tissues in the mouth to re-oxygenate. Prolonged use of dentures and inadequate cleaning can result in a fungal infection (thrush) forming, resulting in sore red areas under the dentures.

- Remove and rinse dentures after every meal. Clean with a hard tooth brush, nail brush or denture brush with plain soap and water.
- Once dentures are removed clean the mouth with a soft tooth brush or mouth swab.
- If the individual has a dry mouth, a saliva substitute can be used on the denture before inserting into the mouth.
- Remove dentures at night and soak in water.
- In the later stages of dementia wearing dentures can become problematic and may have to be left out.

**Don’ts**
When cognitive impairment is present the individual will need assistance in maintaining good oral and dental habits.
- Don’t forget to clean the back teeth if you are the one providing the dental care.
- Don’t clean the tongue with a hard tooth brush as this may hurt.
- Don’t give lollies, chocolates or cake when visiting.
- Don’t offer juice, cordial or soft drinks. Diet or sugar free drinks can be quite acidic and if there is a dry mouth present decay can be very rapid.
- Don’t smoke.
- Don’t mix medicines with jam.

As dementia is age related and life expectancy is increasing globally the number of older people living in the community or in residential care will inevitably increase significantly. When health declines or when an individual is no longer able to properly care for themselves the benefits of a lifetime of good dental care can often become undone rapidly when neglected. Families and carers must be aware that there may be pain and discomfort associated with poor oral and dental health which the individual may not be able to verbalise. They should be proactive in arranging dental care which should be aimed at preserving function and comfort.

**References**
9 Watts A et al. 2008 'Inflammation as a potential mediator for the association between periodontal disease and Alzheimer’s disease' Neuropsychiatric Disease and Treatment 2008:4 (5) 865-876


Contributors
Dr Peter Foltyn, Conjoint Senior Lecturer UNSW & Dental Department St Vincent’s Hospital Victoria Street, Darlington, NSW 2010, Australia & Consultant Dentist Sir Moses Montefiore Nursing Home, 36 Dangar Street Randwick, NSW 2031, Australia
Email: pfoltyn@stvincents.com.au

Jayne Braunsteiner, Dental Hygienist, Sir Moses Montefiore Nursing Home, 36 Dangar Street Randwick, NSW 2031, Australia
Email: jbraunsteiner@montefiorehome.com.au