

## Innovations in preventing root surface tooth decay



In this second article in a short series about caring for dependent, elderly people with natural teeth, special needs dentist, **Dr Peter King** discusses latest best practice in preventing root surface tooth decay.

**Dr Peter King BDS MDS FICD**  
Special Needs Dentistry  
Hunter and New England Area Health Service

DENTAL decay in functionally dependent adults often occurs on the root surfaces of the teeth. As we age, the gums recede due to gum disease and toothbrush abrasion. Yes, you can brush away your gums if you brush too vigorously. Gum recession exposes the roots of the teeth to the oral cavity. Unlike the crowns of teeth, the roots are not covered with hard enamel. The root surface is more porous and more susceptible to dental decay than the crowns of teeth.

The effect of decay in the root of a tooth can be devastating. The decay quickly spreads around the circumference of the tooth and the tooth snaps off at the gum line. This process can occur in a short space of time. Case reports have identified elderly patients with all of their natural teeth and no dental decay, requiring removal of all teeth due to root surface decay after just 12 months of inadequate oral care.

“Case reports have identified elderly patients with all of their natural teeth and no dental decay, requiring removal of all teeth due to root surface decay after just twelve months of inadequate oral care.”

The turning point from good oral health to poor oral health is frequently the development of a disability such as stroke or dementia. With the disability comes subtle change in the effectiveness and frequency of toothbrushing. It also affects the person's ability to clear

food from the oral cavity after eating, resulting in food pooling against the teeth. While the enamel on the crowns of teeth may cope with the insult of these factors, the porous root surface does not.

Practices can be implemented to prevent devastation of the dentitions of at risk populations. Due to the aggressive nature of root surface decay, early implementation of preventive strategies is required.

### PREVENTING ROOT SURFACE DECAY

Dentists can use *glass ionomer* cement as a root surface protection to help prevent dental decay on root surfaces. For decades, children have had sealants placed in the




**MEET ACCREDITATION STANDARD 2.15 WITH DENTIST APPROVED ORAL CARE & DRY MOUTH RELIEF**



**COMPLIANCE IN EVERY PRODUCT**


- TOOTHETTE® MOUTH MOISTURISER
- TOOTHETTE® SUCTION TOOTHBRUSH
- TOOTHETTE® SUCTION ORAL SWABS
- TOOTHETTE® ORAL SWABS
- OPEN WIDE MOUTH PROP



**1 800 020 025**  
[WWW.CONFIDENTCARE.COM.AU](http://WWW.CONFIDENTCARE.COM.AU)

*"ADVANCING HYGIENE PRACTICES THROUGHOUT AUSTRALIA"*



**COMPLIANCE IN EVERY PACKAGE**

**PROTECTION IN EVERY CLOTH**

- COMFORT™ BATH ESSENTIAL
- COMFORT™ HAIR SHAMPOO CAP
- COMFORT SHIELD® PERINEAL CARE WITH BARRIER PROTECTANT

**INTERVENTIONAL HYGIENE**

**ADDRESSES RISK FACTORS FOR PNEUMONA, SKIN BREAKDOWN AND PRESSURE ULCERS**

fissures of their six-year-old molars to prevent tooth decay. More recently, flowable glass ionomer cements have been developed that allow the dentist to cover the root surface with a protective film. The cement contains fluoride that is slowly released into the tooth. Also, when the patient has a fluoride treatment, the glass ionomer cement takes up the fluoride and again releases it into the tooth over a long period.

In addition to fluoride, *chlorhexidine and phenolic compounds* have been shown to reduce the incidence of root surface decay by reducing the level of bacteria that colonise root surface. These chemicals can be found in a number of mouth rinses. If a patient is unable to rinse and expectorate, the mouth rinses can be atomised and sprayed into the mouth. Atomising has been shown to be as effective as rinsing for thirty seconds.

Early stages of decay can be reversed by *remineralisation*. Fluoride is a well recognised chemical that helps the remineralisation process. Recently, casein phosphopeptide-amorphous calcium phosphate (CPP-ACP) has become available in Australia to assist in the remineralisation process. In Australia at present, only dentists can purchase and sell CPP-ACP.

Frequent ingestion of sugary food and drink is a major contributor to root surface decay. Bacteria in the

mouth convert starch and sugar into acids which eat away the root surfaces. Manitol, Sorbitol and Xylitol are three common *artificial sweeteners*. Surprisingly, Sorbitol and Manitol can also be used by bacteria to produce acids. Only Xylitol will completely block the bacteria from producing acids. If a functionally dependent older adult has a strong preference to eat confectionary and drinks, those sweetened with Xylitol should be chosen. These products are now readily available in supermarkets. However, Xylitol used in excess will cause osmotic diarrhoea.

Daily physical removal of plaque from the root surface is important to prevent the development of root surface decay. Cleaning the natural teeth of functionally dependent older adults can be complex. Direct care workers require oral health training to effectively provide oral care to functionally dependent adults. All older adults benefit from regular dental examination, professional fluoride applications and tooth brush instruction to ensure that root surfaces are kept plaque and decay free.

\* A copy of Dr Peter King's previous article on 'Caring for People with Natural Teeth' (NHJ Aug 2005) can be obtained by contacting the editor at [ed-nhj@bigpond.co.au](mailto:ed-nhj@bigpond.co.au). Dr Peter King may be contacted at [specialdental@gmail.com](mailto:specialdental@gmail.com). nhj



# SUBSCRIBE NOW

## Send this coupon to

**The Intermedia Group**

**PO Box 55 Glebe NSW 2037 or fax 02 9660 4419**

Please find enclosed my cheque/money order for \$ \_\_\_\_\_

payable to: The Intermedia Group Pty Ltd (ABN 94 002 583 682) OR

Please charge my:

Bankcard     Mastercard     Visa     Amex     Diners Club

Card No: \_\_\_\_\_

Expiry date: \_\_/\_\_/\_\_

Cardholder Name: \_\_\_\_\_ Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Job title: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

Suburb/Town: \_\_\_\_\_ Post code: \_\_\_\_\_

Ph: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_

### YES! I wish to receive Healthcare magazine.

#### Within Australia\*

- \$82.50      1 year 6 issues  
 \$154.00     2 years 12 issues  
 \$185.60     3 years 18 issues

\* Prices quoted include GST

#### Overseas rates

##### Asia Pacific

- \$AUD 100.00    1 year 6 issues  
 \$AUD 175.00    2 years 12 issues  
 \$AUD 200.00    3 years 18 issues

#### All other countries

- \$AUD 125.00    1 year 6 issues  
 \$AUD 200.00    2 years 12 issues  
 \$AUD 225.00    3 years 18 issues