

THE INEVITABLE MALADIES OF THE MATURE DENTITION

During the past 50 years, life expectancy in the United States has increased significantly. Before that time, the average U.S. citizen's life span was about 50 years, and teeth often survived a lifetime intact. It is now common for Americans to live nearly 80 years.

Although this increase in life expectancy has been welcomed by the general population, it brings many challenges to mature dental patients. This article describes the oral challenges faced by many mature people and potential methods with which to treat them. It is suggested that maturing patients be informed of the oral problems they will face to allow for potential prevention of some situations.

TOOTH WEAR

It is estimated that teeth wear about 30 micrometers per year,^{1,2} or about 0.3 millimeters in 10 years. Normal chewing significantly wears tooth structure. It is infrequent that a person will reach 50 years of age without having areas of dentin showing through occlusal enamel. These spots usually wear faster than surrounding enamel, may be sensitive and are unsightly. When bruxism or clenching are present, tooth wear is increased significantly, and it may necessitate comprehensive rehabilitative dental

treatment by the time the patient reaches the age of 50 years. Normal tooth wear cannot be prevented. However, tooth wear caused by bruxism or clenching can be reduced significantly by proper use of occlusal splints.¹

GINGIVAL RECESSION

As life continues, gingival recession is inevitable. In many situations this is not a problem, but in some patients it leads to root sensitivity.³ An esthetic problem also arises when gingival recession is visible during speaking or smiling. The display of long, yellow teeth, often with large horizontal slots (abfractions) in their surfaces, is not appealing. Prevention of gingival recession is difficult and sometimes impossible, but toward that end, patients should avoid excessive or abusive oral hygiene habits.

ROOT-SURFACE CARIES

People who have had minimal dental caries during their adult lives may have a significant increase in root caries in their mature years. Root-surface dental caries is a significant problem in mature people because gingival soft tissues have receded to expose dentin, making it more susceptible to caries. Prevention of root caries requires meticulous oral hygiene and use of fluoride in toothpaste or preventive trays.

PERIODONTAL DISEASE

A high percentage of mature adults have localized or generalized periodontal disease. This slowly progressing degenerative condition causes tooth mobility, gingival recession, food accumulation under and around gingival tissues, halitosis and eventual loss of some or all teeth. Periodontal disease should be diagnosed earlier and treated more frequently in the United States.^{4,5} Prevention of periodontal disease has long been associated with optimum oral hygiene. Other preventive measures include proper diet and refraining from smoking.

TOOTH DISCOLORATION

Pigmented foods consumed throughout life gradually darken teeth. By age 50 years, very few people have the light-colored teeth they had at age 20 years. The stains typically are yellow, brown or orange. Unfortunately, some people receive chemicals that stain teeth internally during or, occasionally, subsequent to tooth development. These internal chemical stains are difficult, if not impossible, to remove. Fortunately, superficial yellow, brown and orange stains (the so-called stains of age) can be removed simply with the use of carbamide or hydrogen peroxide in trays at home or through in-office bleaching.^{6,7} Bleaching vital teeth at home has been one

of the most significant concepts in esthetic dentistry in the last several decades. While it is not easy to prevent tooth staining, removing stains is relatively easy and effective.

CHIPPING AND CRACKING OF TOOTH STRUCTURE

Transillumination of the teeth of any mature person shows mild-to-severe cracking of enamel. It appears to be impossible to prevent this phenomenon. The more physical activity in which the person has been involved, the more cracking can be observed. Cracks often become discolored from foods, making the teeth appear unsightly and aged. When occlusal or incisal surfaces have worn through enamel into dentin, the enamel often breaks along the lines of the previous cracks. Such teeth are very difficult to restore, because cutting them stimulates further cracking and because it is hard to find an area where tooth preparation margins can be located. Cracks often extend into dentin and may be very painful. These teeth require crowns, onlays, occasionally endodontic therapy, and extraction in extreme cases.⁸

Prevention of cracking and chipping is directly related to lifestyle. People involved with body-contact sports or any activity that includes force applied to tooth surfaces have high potential for cracking and chipping teeth. In some athletic activities, the use of mouthguards should be encouraged. There are many types of mouthguards, ranging from simple

and relatively ineffective to multilayered, well-fitted guards that have the potential to reduce tooth cracking and chipping greatly.

LACK OF ABILITY OR DESIRE TO CLEAN MOUTH

As people age, many lose digital abilities because of arthritis, mental degeneration or other health conditions. These people are unable to adequately clean their teeth and mouths. As life nears completion, some people lose all motivation to clean their mouths. The debris left in their mouths, combined with the soft, sweet diet of many elderly people, is devastating for the teeth. The result of inadequate cleaning is gross and debilitating dental caries, especially on root surfaces. Restoration of these lesions is needed, followed by continued care and close observation. If not, caries will continue until the teeth need to be extracted.



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Prevention of dental caries for people unable to clean their mouths can be best effected by having another person routinely help them with their oral hygiene. Use of high-level fluoride brush-ons (Control Rx, Omni Products; Pro-Dent_x 1.1%

Plus, Pro-Dentec; Prevident 5000, Colgate) or fluoride in trays (Prevident, Colgate), applied once per day for five minutes just before retiring, also will help prevent caries in these patients. Preventive restorative materials, such as hybrid ionomers (Fuji II LC, GC America; Vitremer Restorative Material, 3M Dental) should be used when needed.⁹ Mechanical toothbrushes can aid people who have difficulty cleaning properly with conventional methods.

SUMMARY AND CONCLUSION

Patients who are in their mature years should be advised about the numerous ways in which teeth and supporting structures degenerate in the later years of life. This knowledge will allow patients to make special efforts to prevent, reduce, eliminate or treat the oral problems associated with aging. ■

The views expressed are those of the author and do not necessarily reflect the opinions or official policies of the American Dental Association.

Educational information on topics discussed by Dr. Christensen in this article is available through Practical Clinical Courses and can be obtained by calling 1-800-223-6569.

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