Special oral hygiene and preventive care for special needs

Prevention of dental caries and periodontal disease for people with special needs is a challenging problem in dentistry. Every dental practice has patients who have physical or intellectual disabilities. Additionally, some patients who appear to be healthy in other ways have nearly uncontrollable dental caries or periodontal problems that continue to degenerate without special care. If these patients receive only conventional biannual recall appointments, their conditions usually continue to become more severe, with the eventual loss of teeth. There are numerous effective preventive programs for people with special needs, but these programs and techniques need to be available in dental practices, and dentists and dental hygienists need to inform patients of that availability.

This article includes an identification of the types of patients who have special oral hygiene needs, as well as a description of a number of methods to help them solve or at least reduce their oral problems.

SITUATIONS REQUIRING OPTIMUM ORAL PREVENTIVE PROGRAMS

Patients with intellectual disabilities. Patients who have intellectual disabilities may not understand the need for oral hygiene or may not be able to perform it without help from caregivers. Often, caregivers are not aware of the necessity of preventive oral care, and they may neglect to provide it for those for whom they are responsible. When providing oral care education to caregivers, dentists must instruct them about the methods necessary for optimum oral care and how to assist the special-needs patient or to carry out the oral hygiene procedures themselves.

Patients with physical disabilities. Many patients are unable to accomplish normal oral hygiene tasks because of physical limitations. Included are those with arthritis, elderly people, people with lack of muscular coordination regardless of age and people who have had amputations.

Patients with high caries activity. For numerous reasons, some patients have high caries activity but are healthy in all other observable mental and physical aspects. Typical recall appointments at six-month intervals are discouraging to them because new carious lesions are found each time.

Patients with ongoing progressive periodontal disease. Chronic periodontal disease needs special attention and implementation of more than normal oral hygiene methods to slow or stop the periodontal disease process and to retain teeth for as long as possible.[1]

Patients with tooth root sensitivity. In both young and mature patients, root sensitivity is not uncommon. Typical dental

hygiene procedures are not adequate to reduce or eliminate the root sensitivity, and special preventive and treatment procedures must be used.

CREATING BEHAVIORAL CHANGE IN PATIENTS

Dental practitioners know the difficulty of changing oral hygiene behavior. If a patient has had a lifelong history of poor oral hygiene, it is almost impossible to change that person into someone who meticulously cleans his or her teeth. This same difficulty is present in any behavioral change situation in all aspects of life.

Behavioral change is effected primarily by education, and this must be a major part of any attempt to change oral hygiene. If patients understand the reasons for suggested changes in oral hygiene behavior, and the consequences of continuing poor oral hygiene conditions, the potential for behavioral change is greatly improved.

Knowing how difficult it is to change behavior, it is important to suggest to patients improvements in oral hygiene programs that require minimal change from the patient's previous oral hygiene habits. Assuming the patient has been brushing his or her teeth, an example of the need for minimal behavioral change with a significant effect is substituting one of several toothpastes containing 5,000 parts per million fluoride for the typical over-the-counter 1,000-ppm fluoride toothpaste.

PREVENTIVE CONCEPTS FOR SPECIAL ORAL HYGIENE NEEDS

High levels of fluoride in toothpastes. Introducing the concept of high-fluoride (5,000 ppm) toothpaste to patients is not difficult, because most of them have been brushing their teeth routinely, and this concept requires only changing the type of toothpaste. I suggest that practitioners keep an adequate quantity of high-level fluoride toothpastes in their offices to be given or resold to patients who need this high level of preventive service. Among the brands of 5,000-ppm fluoride toothpastes are PreviDent 5000 Plus (Colgate Oral Pharmaceuticals, Canton, Mass.), Fluoridex 5000 ppm Neutral Sodium Fluoride Toothpaste (Discus Dental, Culver City, Calif.) and ControlRx (Omnii Oral Pharmaceuticals, West Palm Beach, Fla.).

At least the following categories of patients need higher quantities of fluoride in their toothpaste:[2] people undergoing radiation therapy or chemotherapy, elderly or pediatric patients with caries, patients with bulimia,[3] patients who have just had many tooth restorations completed, patients undergoing orthodontic therapy and any other person who has ongoing high dental caries activity.

High-level fluoride gel in trays. The provision of high-level fluoride gel (5,000 ppm) in trays is the most cariostatic preventive concept available, but it requires the patient's cooperation and significant behavioral modification to wear the trays containing fluoride. I have had success with acceptance of this concept if patients have been educated about the consequences of the lack of caries-reducing oral hygiene procedures. A good example is radiation therapy. If patients undergoing radiation therapy will not commit themselves to daily use of high-level fluoride in trays (the same brands discussed previously), I suggest that the teeth should be extracted before the radiation therapy begins. The reasons for extraction are the potential necessity for an extraction subsequent to radiation therapy, development of osteoradionecrosis in the bone surrounding the extraction site and the avoidance of a major expense of special oxygen therapy to promote adequate healing.

High-level fluoride or high-level fluoride combined with potassium nitrate (Fluoridex, Discus Dental) in trays also can be used to reduce postoperative periodontal surgery root sensitivity or sensitivity caused by aggressive tooth bleaching.

Making the tray. The following steps outline the procedure the practitioner should use in making the tray.

- Make a full-arch alginate impression.
- Pour the working casts in stone.
- Make a "suck-down" hard-resin tray, about .025 inches thick and extended at least 1 millimeter apical to the gingival line.

Using the tray. Use of high-level fluoride in trays is simple, but the practitioner must explain the following technique and instructions thoroughly to the patient to help ensure compliance. The practitioner should instruct patients to use the trays in the following manner:

- Brush and floss the teeth.
- Place about six drops of the gel, evenly spaced, around the inside of the tray(s).
- Expectorate, then suck and swallow the excess saliva from the teeth.

- Seat the loaded tray(s).
- Leave the tray(s) in the mouth for about five minutes. Both upper and lower trays can be in the mouth at the same time.
- Remove the trays and expectorate the excess fluoride gel. If living in an area with fluoridated drinking water, rinse the mouth and expectorate again. If in an area without fluoridated water, the mouth need not be rinsed.
- Accomplish the fluoride application daily just before bedtime and, in severe cases, a second time, just after eating breakfast and cleaning the teeth.

Rinses. Several excellent preventive rinses are available for potential assistance in controlling periodontal disease. Among them are Listerine (Pfizer, New York), Crest Pro-Health Rinse (Procter & Gamble, Cincinnati) and Tooth & Gum Tonic (Dental Herb Company, Boca Raton, Fla.).

Mechanical toothbrushes. Although long available at considerable expense, in my opinion, new low-cost mechanical toothbrushes are mandatory for both physically compromised patients as well as for caregivers who can assist patients with intellectual disabilities in how to use them. Examples of the low-cost mechanical toothbrushes are Crest SpinPro (Procter & Gamble) and Colgate Motion (Colgate Oral Pharmaceuticals).

Easy-to-use dental floss. People who need to use floss to clean their teeth often are discouraged because the floss catches on rough restorations. Such patients should be advised to use the thin, slick forms of floss such as Crest Glide Comfort Plus (Procter & Gamble) or Colgate Total (Colgate Oral Pharmaceuticals).

The difference in ease of use between standard waxed floss and the improved forms of floss is evident immediately, and patients become encouraged to floss. Special floss holders are available for patients with physical disabilities. Once-daily use, just before bedtime, usually is recommended, and the positive results will be evident.

Frequent recall appointments. In my clinical experience, a recall and examination appointment once every six months is not enough for the types of patients described in this article. Many clinicians have recommended that such patients return every two, three or four months until their specific condition is under control, at which time they can return to the standard biannual professionally administered preventive regimen.

Tongue cleaning. Cleaning the tongue—a major factor in oral hygiene—often is neglected.[4] If the tongue appears gray-green or gray-brown, tongue cleaning is advocated. Most patients do not clean their tongues. Some brush their tongues, but special tongue cleaners are more effective to remove the debris that collects around the taste buds on the tongue. Scraping of the top surface of the tongue once or twice daily is suggested to reduce the microorganisms in the mouth—after breakfast and just before bedtime. Examples of tongue cleaners are Breath Wand (Oolitt Advantage, Tampa, Fla.), Fresh-R Tongue Brush/Scraper (Sunstar Butler, Chicago) and Tongue Cleaner (Vista Dental, Racine, Wis.).

Antibiotics for treatment of periodontal disease. Use of systemic or local antibiotics for treatment of periodontal disease has been suggested by many clinicians and researchers. Systemic doxycycline hyclate administered in 20-milligram doses twice daily (Periostat, CollaGenex Pharmaceuticals, Newtown, Pa.) has been promoted for assistance in treating periodontal disease. Additionally, antibiotics are being used locally in periodontal pockets (Atridox, CollaGenex Pharmaceuticals; Arestin, OraPharma, Warminster, Pa.; PerioChip, Omnii Oral Pharmaceuticals).

SUMMARY

Many dental patients have special preventive needs related to dental caries and periodontal disease, and most patients with intellectual or physical disabilities have specialized needs. This article suggests that these needs often go overlooked. To best care for patients with these needs, the dental practitioner should identify special oral hygiene needs among his or her patients, provide them with oral hygiene instruction and implement the specific oral hygiene preventive and treatment procedures described here. ■

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

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