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Dentures, a Matter of Health

Proper fitting oral prosthetics improve elderly patients' overall wellbeing

By Michelle Cafaro Gellar, RN, MSN, MPH, Daniel Alter, CDT, MDT

While dentistry is primarily concerned with functions of oral health, it is of utmost importance that the dental team also takes into account their patients' overall health. Health issues that begin in the oral cavity could potentially have overarching effects on other parts of the body. Restorative dental services and a team approach to therapy have become increasingly prevalent when treating baby boomers and the aging American population. There can be numerous significant health ramifications when patients do not follow proper dental protocol, particularly among the elderly and the aging public. Health issues stemming from a lack of appetite, anorexia, or malnutrition could potentially be related to ill-fitting dental prosthetics. This phenomenon is prompting dental teams to reexamine the status quo. The dental team must apply patient-specific care and educational measures to limit potential downfalls, such as dental service drop off or the patient ceasing to wear the prosthesis due to discomfort, in each and every case.

Patients by the Numbers

Census numbers estimate that people who are currently 65 years of age will live an additional 17.8 years. A census collected by the American Dental Association has established that there are currently over 32 million people in the United States wearing partial or complete dentures, and that nearly 57% of people aged 65-74 fall into this group.¹ According to a study done by iData Research Inc.,² there were 2,762,746 complete dentures and 3,560,705 partial dentures fabricated for American patients in 2010, totaling 6,323,452; this reflects an increase of 3.7% from the previous year. With so many patients relying on their dentures, ensuring the validity and proper use of these appliances is of supreme importance to their overall health.

As of 2010, there were over 40.3 million adults over the age of 65 living in the United States.³

About 25% of those 40.3 million older adults no longer have any natural teeth.³ One reason why the elderly do not pursue dental care is related to lack of dental insurance. Adults over the age of 65 who qualify for Medicare are provided with medical coverage, but this does not cover dental procedures for any type of oral care.⁴ Older adults who qualify for Medicaid have dental coverage, but reimbursements are low and therefore providers may be more difficult to find. The treatment, management, and prevention of oral diseases in the elderly will improve not only the conditions of their mouths, but also their overall health and well-being.⁵

Maintaining a Healthy Diet

Eating well is one of the best ways the geriatric population can maintain good health long term, and the general health of the elderly is negatively impacted by poor nutrition. As a person ages, the body's ability to regulate many normal functions, including processing the nutrients from food, may become impaired.⁶ As such, clinicians need to pay close attention to their elderly patients' eating habits and digestive issues.

The first digestive function to consider in elderly patients is appetite. Appetite is controlled by a combination of a patient's gastrointestinal system, brain, and hormones.⁷ There is a clear relationship between metabolism, appetite, and oral health, which includes dental restorations. When a person's metabolism is affected, the appetite is also affected, leading to malnutrition and possibly anorexia. A lack of appetite and weight loss adversely affect the overall health of elderly patients, and could potentially mask cancers, cardiovascular disease, pulmonary disease, neurological disease, liver disease, renal failure, and even the side effects of medications.⁵

The elderly need to eat a variety of nutrient dense foods in order to maintain good health. A sensible diet for geriatric patients includes a variety of fresh or frozen vegetables, fruit, whole grains, lean protein and adequate water intake.⁸ Patients should increase their intake of calcium and vitamin D, which are needed to maintain bone health as people age, as well as fiber, since peristalsis can slow during the aging process.

While a hearty, varied diet is necessary to maintain one's health when aging, a recent Tufts University study of older adults found that the diets of full or partial denture wearers were considerably lower in 19 different nutrients when compared to adults who were not missing any teeth.⁹ Many of these missing nutrients are found in hard-to-chew foods such as meat, crunchy vegetables and fruits like carrots and apples, and nuts. Adults who wear complete dentures have been found to have diets high in fat and low in fiber.¹⁰ This could be caused by reduced mastication ability related to wearing full replacement dentures.

The Importance of Proper-Fitting Denture

A variety of factors may affect a patient's aptitude toward wearing his or her dental prosthesis. One is the minimization of taste and texture sensation that occurs because the prosthesis covers the palate.⁹ More significantly, many denture wearers develop painful sores because their prosthesis is not properly

fitted. Complete and partial dentures must go through a regimented dental protocol to ensure appropriate fit from the onset, both in the clinical setting as well as in the laboratory. A poorly fabricated denture is not only uncomfortable, but could potentially cause harm to the patient's mouth, which may eventually lead to the patient deciding to forego the appliance entirely.¹¹ According to a 2011 study, approximately 33% of denture wearers have reported their appliances as "poor-fitting." These individuals were more likely to remove or disuse their dentures while eating than people whose dentures fit well.¹¹

Ill-fitting dentures may not only impair mastication, they also can cause abrasions and edema of the gums. These complications could ultimately lead a denture-wearer to drastically decrease their oral intake due to pain or discomfort. A quality, good fitting dental prosthesis has a profound effect on older adults' overall quality of life, as is evident in a study performed by Dormenval, et al, where patients affirmed, "Yes, I can chew what I like to eat."¹²

Patient Responsibility

It is not the sole burden of the dental team to ensure their patients are pursuing proper oral health care. Patients must be their own advocates and take responsibility of their oral health regimen and monitor their own appliances for wear and tear. Denture-wearing adults should see a dental clinician at least once a year to maintain the function of their prostheses. Patients with new appliances should see their clinicians even more frequently. Dentures should be removed daily for proper hygiene and to allow the gums to rest. Neglecting these measures will lead to movement in the oral cavity and ultimately cause the dental prosthesis to be ill-fitting.⁷ Individuals with ill-fitting dentures self-reported a significantly lower use of professional dental services, higher degree of oral function limitations, and significantly increased levels of poor health and depression.¹¹

Conclusion

The restorative dental team should look further than the task at hand when fabricating oral prosthetics for their older patients. These patients must be educated on the further and future maintenance required for their dentures in order to ensure adequate oral and masticatory functions. Proper mastication and function of a dental prosthetic should be evaluated past the point of initial delivery to the patient. Subsequent assessment and patient follow-up should become the standard protocol and perspective for overall holistic health, including dental/oral health. This will increase the longevity of their dental prosthetics while leading to better overall health and quality of life, thereby creating value physically, socially and emotionally.

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