# Older Dental Patients: Myths and Realities

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***This course is no longer offered for Continuing Education credit.***

This continuing education course is intended for general dentists and hygienists. This course presents information on the challenges associated with care of the elderly dental patient. There are many misconceptions about elderly patients and this course addresses key aspects of the elderly that will provide a greater understanding of this dynamic population. The course content includes analysis of the elderly of today compared to that of two and four decades ago, the status of today's dentate elderly, as well as periodontal status, and dry mouth.

### Conflict of Interest Disclosure Statement

The author has done consulting work for P&G.

### Overview

Growth in the number, age, and rate of tooth retention of today's elderly presents the dental team with an unfamiliar set of clinical challenges. Dental professionals need to be able to separate out stereotypical images of the elderly from the realities of the senior citizens of the present and the particular oral

presentation of a particular older patient. Today's elders are mostly dentate. Their dentitions have experienced periodontal disease but generally have healthy remaining attachment. Decrease in salivary flow, frequently observed in older patients, puts the teeth at increased risk for dental disease and is due to the effects of drugs or disease rather than advanced age. American elders are increasingly functional, independent, and increasingly financially secure. These facts result in a growing demand by older patients for dental services and put the dental professional into increasing contact with this growing group.

## Learning Objectives

Upon the completion of this course, the dental professional will be able to:

- Describe the change in the number and proportion of elderly in the United States.
- Contrast the dental state of today's elderly with that observed in the elderly of two and four decades ago.
- Describe the periodontal status of dentate elderly Americans and the range of treatment needs indicated.
- Describe the significance of dry mouth and the range of likely causes for this condition in an older patient.
- Discuss the range of financial and functional states seen in the elderly and comment on the likely impact of these on the pursuit of dental treatment.

## Course Contents



## Introduction

At the beginning of the twentieth century, about three million Americans (approximately 3% of the population) were 65 years of age or older. Fewer than 200,000 were 85 or older. Today there are over 40.2 million people over the age of 65 in the U.S., of whom over five and a half million are over the age of 85. There are now more people in this country over the age of 65 than there are children under the age of 8, and the proportion of those over the age of 85 is growing at a faster rate than that of any other age group.

This dramatic shift in the age-mix of the population is discernible in every aspect of the modern human experience, from the age of characters in advertisements, books, movies, and TV shows to the way tax dollars and healthcare resources are allocated as well as the foci of biomedical and health sciences research.

The elderly are seeking dental care at an unprecedented rate and in numbers that outweigh their burgeoning proportion of the population. In 1988 and again in 1998, Meskin, et. al. collected data from private dental practices in Minnesota, Arizona, Florida, Colorado, and Connecticut. The proportion of elderly patients seen in these practices exceeded their representation in the general population as shown in Table 1 on the following page. This is in stark contrast to data from only 15 years earlier, in which Gift and Mankowski reported lower dental utilization in the elderly than in any other non-child age group.

More recent national data in Table 2 shows continued increase in the number of adults age 75 and over who had seen a dentist in the last year, compared with ten years earlier. The same comparison for longer intervals between dental visits indicates that the proportion of those who hadn't seen a dentist in over five years had declined in the ten year interval. Today's dental practitioners will increasingly, regularly treat patients of advanced age on a routine basis and must have realistic understandings about them.

Many misconceptions and false stereotypes, both positive and negative, about older people may be held by health providers of any age, and these may inadvertently and incorrectly influence assessment, diagnosis, and management

| Table 1: Percentage of total visits, expenditures, and state population in patient aged 65 years or older | | | | |
|---|---|---|---|---|
| State/Year | | % patient visits | % patient expenditures | % state population |
| Arizona | 1988 | 19.5 | 22.5 | 12.6 |
| | 1998 | 20.3 | 25.3 | 13.2 |
| Colorado | 1988 | 9.2 | 10.4 | 9.5 |
| | 1998 | 12.0 | 11.2 | 10.1 |
| Connecticut | 1988 | 10.4 | 10.0 | 13.2 |
| | 1998 | 21.5 | 21.7 | 14.3 |
| Florida | 1988 | 24.9 | 27.6 | 18.1 |
| | 1998 | 27.6 | 30.7 | 18.3 |
| Minnesota | 1988 | 13.4 | 13.9 | 12.5 |
| | 1998 | 17.3 | 19.5 | 12.3 |

| Table 2: Percentage of respondents of different age groups that reported the time since their most recent dental visit in two National Health and Nutrition Examination Surveys conducted 10 years apart | | | | | | |
|---|---|---|---|---|---|---|
| Age Group | Period covered by survey | Interval (in years) since most recent dental visit | | | | |
| | | <1 | 1-2 | 2-3 | 3-5 | >5 |
| 65-74 | 1988-1994 | 56.75 | 9.93 | 4.61 | 5.11 | 21.12 |
| | 1999-2004 | 56.90 | 8.78 | 6.04 | 6.67 | 21.23 |
| 75 and over | 1988-1994 | 50.45 | 7.49 | 3.71 | 6.87 | 26.97 |
| | 1999-2004 | 51.60 | 9.28 | 6.01 | 7.37 | 25.52 |

approaches. This course will discuss certain incorrect beliefs or "myths" about America's elderly that need to be set right in order to achieve a balanced and appropriate clinical approach to these patients.

## Myth 1

### "Most Old People Have Lost Their Teeth"

As recently as 1971, about 50% of Americans over age 65 were edentulous (see Figure 1). But as people who were children in the 1920's and 1930's have become "the elderly," a striking number of them have retained some or much of their natural dentitions. The latest nationwide data, collected 1998-2004, showed that about 23% of Americans age 65-74 were edentulous. The dentate members of this age group have an average of 19 teeth; over age 75, this figure was over 16 (which represents nearly 60% of the intact adult dentition) in 1994; by 2006 the figure was over 18 (64%).

Dental professionals who inaccurately assume that toothlessness is inevitable with advancing age, or who believe that edentulousness will be

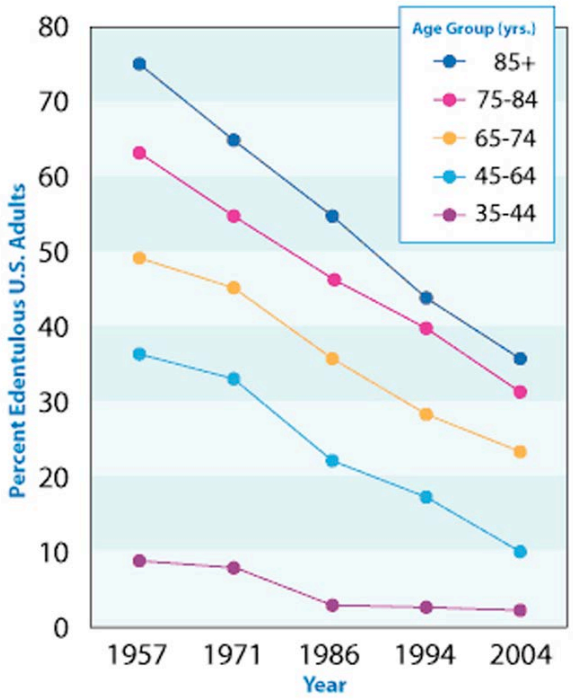


**Figure 1.** Edentulousness in U.S. adults: 1957, 1971, 1986, 1994, and 2004

acceptable to their older patients, may undersell the advantages of preventive and restorative services, thereby depriving older clients of conservative, feasible, needed treatment. Obviously this is unacceptable.

## Myth 2

### "Older People with Teeth Generally Have Severe, Destructive Periodontal Disease"

Current understanding of periodontitis is that most adults are affected by episodic, localized bouts of destruction ultimately resulting in measurable loss of bone and attachment. Because older people have been exposed to these episodes of bone loss for more years than their younger counterparts, there is unquestionably more loss of attachment on average in older patients than younger ones.

However, the 1991 National Health and Nutrition Examination Survey found a leveling-off of pocket depth and bleeding on probing - the currently accepted clinical signs of active periodontal disease - in the elderly, although subgingival calculus, recession, and loss of attachment were more pronounced in this group than at earlier ages (see Table 3).

There are several important implications of these findings for the dental team. First, the presence of calculus and the absence of severe pocket depth indicate that the major periodontal treatment needs in most of these patients will be non-surgical (scaling and localized root planing). Second, the likelihood for significant loss of attachment suggests that interproximal oral hygiene measures other than floss - such as interproximal brushes - should receive serious consideration even for patients who have not undergone periodontal surgery since furca and interproximal root concavities may lurk within the gingival sulcus. This point is emphasized by data from a more recent National Health and Nutrition Examination Survey that shows slow, but not remarkable, progression of periodontal disease with advancing age (Table 4, columns 2-5).

Finally, the widespread recession in the elderly makes the likelihood for root caries attack to be greater in this group than in any other; this is borne out in Table 4, Column 6. For this reason, measures focused on prevention of root caries (such as an ADA-accepted sodium fluoride dentifrice, supplemental fluoride rinses and/or gels, xylitol-containing gums and lozenges, and dietary counseling) must be part of the plan of care for most dentate seniors.

**Table 3: Selected measures of periodontal status, U.S. adults in the NHANES-III study, 1988-1991**

| | Sites with Pocket Depth ≥ 4mm | | Sites with Bleeding on Probing | | Sites with Subgingival Calculus | | Sites with Recession ≥ 1mm | | Sites with Loss of Attachment ≥ 3mm | |
|---|---|---|---|---|---|---|---|---|---|---|
| Age | % Pts. Affected | % Sites per Pt. | % Pts. Affected | % Sites per Pt. | % Pts. Affected | % Sites per Pt. | % Pts. Affected | % Sites per Pt. | % Pts. Affected | % Sites per Pt. |
| 25-34 | 33.1 | 3.0 | 62.5 | 10.4 | 67.4 | 21.7 | 29.0 | 3.4 | 28.0 | 4.0 |
| 35-44 | 34.2 | 3.9 | 60.1 | 11.1 | 69.2 | 24.2 | 46.3 | 8.3 | 43.6 | 9.1 |
| 45-54 | 40.0 | 5.0 | 59.9 | 11.7 | 70.0 | 25.7 | 66.3 | 18.4 | 63.0 | 17.8 |
| 55-64 | 45.1 | 5.6 | 59.6 | 12.3 | 74.4 | 29.6 | 78.3 | 27.9 | 74.1 | 26.2 |
| ≥65 | 37.6 | 4.1 | 61.9 | 14.5 | 75.1 | 30.6 | 86.5 | 35.5 | 81.5 | 30.8 |

**Table 4. More recent measures of periodontal status, U.S. adults in the NHANES-IV study, 1999-2004**

| Age Group | Mean Pocket Depth | Mean loss of attachment | Prevalence of periodontal disease | Prevalence of moderate or severe periodontitis | Prevalence of restored and unrestored root caries |
|---|---|---|---|---|---|
| 20-34 | 0.96 | 0.40 | 3.84 | - | 8.07 |
| 35-49 | 1.04 | 0.73 | 10.41 | 5.00 | 14.83 |
| 50-64 | 1.08 | 1.14 | 11.88 | 10.73 | 21.60 |
| 65-74 | 1.07 | 1.44 | 10.20 | 14.26 | 31.70 |
| 75+ | 1.08 | 1.68 | 11.03 | 20.75 | 42.31 |

## Myth 3

**"A Dry Mouth is a Normal Part of Growing Old"**
This myth is absolutely incorrect; studies on well-controlled populations of all ages, with measures repeated over time, reveal minimal salivary flow and composition changes in healthy adults as they grow older. Nevertheless, dry mouth is highly prevalent in advanced age, often because of disease frequently affecting older people or, more likely, medications taken to control those diseases. The seriousness of a dry mouth must not be underestimated, because saliva is a key and indispensable protector of the oral cavity. When salivary flow is modified, the acidity of the mouth rises; remineralization of incipient caries is impeded; oral microbial counts climb; and taste, swallowing, speaking, chewing, and use of oral prostheses are impaired.

The fact that a dry mouth is not a normal part of aging means that when a patient notices, or a dental provider sees evidence of, reduced saliva, steps must be taken to identify the cause of the hypofunction and measures introduced to protect the dentition. The dentist must call attention to the condition and work with the patient and the patient's physician to modify the pharmacological regimen or otherwise get to the source of the problem. Patients whose salivary status cannot be returned to normal should be educated about the possible consequences of the dryness and placed on a more frequent dental recall schedule. An aggressive program of high-potency home fluoride gel is required, and salivary substitutes may be recommended as well to address soft tissue complaints.

## Myth 4

**"Most Old People Are Sick and Poor and Live in Nursing Homes"**
An important lesson to learn about older Americans is that they are a uniquely diverse group. Their age group spans over forty years - more than two generations - and they have lived through a century (or more) that has arguably seen more change than any other in human history. An important key to building a positive working relationship with older clients is to recognize - as one should for patients of any age - the individuality of each person.

It is true that over 50% of people over the age of 65 carry a diagnosis of at least one chronic disease, usually arthritis or hypertension, but possibly cardiovascular disease, diabetes, or others.

Yet due to improved health styles and medical therapies, most elders enjoy a greater level of activity and abilities than similarly diagnosed people of earlier generations could achieve. Even among people who report total inability in at least one necessary daily activity or who report their own health as only fair, annual dental services are obtained at 60% of the rate expected for healthy, fully abled people. Most older patients can be expected to continue to seek dental services as they age, although their home care may become more challenging through medication-reduced salivary flow or problems with visual acuity or manual dexterity.

It is true that several million elders live near to or below the poverty level, and there are populations of elders (notably, single females and minorities of either gender) who suffer from poverty to a greater extent than most. The impoverished state is more concerning for older people because most have finite or diminishing resources and growing health costs. But over 70% of the discretionary spending in America is done by those over age 50. Countless elders buy new homes and cars, take elaborate vacations, and indulge their desires to continue to enjoy life. Dental professionals should avoid drawing conclusions about the importance that an older client will place on costs related to dental care; only the patient can determine that.

Less than one and a half million elders (under 4% of all people over the age of 65) reside in nursing homes. The number is less than one-half percent of those aged 65-74, 6% of 75-84, and about 13% of those age 85 and older. In addition, for each person residing in a nursing home, there are two to three equivalently disabled persons residing in the community through the help of relatives, friends, and public and private services.

However, as described above, a lifetime habit of regular dental care does not disappear with advancing age. Community-dwelling seniors continue to obtain dental services despite frailty.

Admittedly, those residing in nursing homes are a different matter because of their geographic isolation, high rates of impoverishment, and severe frailty and/or cognitive impairment. Yet dental professionals throughout the country are increasingly diligent in instituting local efforts to reach the elderly in long-term care institutions as well. Many of these involve their full dental teams in the effort. In some states, dental practice acts allow RDHs to provide services in nursing homes to patients without the dentist being present, as long as the patient has first been examined, and a plan of care developed, by a dentist.

## Summary

The current trend of increased tooth retention in the elderly is expected to increase, and the number of seniors is expected to keep growing as the "Baby Boomers" begin to cross the threshold out of middle age. Dentistry for older adults will increasingly become focused on prevention, restoration, and maintenance, rather than on replacement. All members of the dental team will need to seek out and undertake educational opportunities to enhance their abilities to provide appropriate care to this diverse and important group of patients.

To receive Continuing Education credit for this course, you must complete the online test. Please go to **www.dentalcare.com** and find this course in the Continuing Education section.

## Course Test Preview

**1. The percent of the nation's discretionary spending accounted for by Americans over the age of 50 is:**

a. Under 50%
b. Over 70%

**2. The National Health and Nutrition Examination Survey (1991) determined that the elderly population experienced more pronounced manifestations of the following oral conditions than at earlier ages:**

a. Subgingival calculus
b. Increased pocket depth
c. Recession
d. Increased bleeding on probing
e. A and C
f. B and D

**3. The latest nationwide data shows that the percentage of Americans between the ages of 65-74 who is edentulous is:**

a. 13%
b. 23%
c. 35%
d. 41%

**4. As reported in the NHANES-III study (1988-1991), the percentage of U.S. adults 65 years or older who experienced subgingival calculus was:**

a. 25.6%
b. 47.6%
c. 75.1%

**5. The percentage of the population over the age of 65 who have at least one diagnosed chronic disease is:**

a. 20%
b. 35%
c. 50%

**6. Xerostomia is highly prevalent in advanced age because of:**

a. Medications taken
b. Lack of appetite
c. Diseases frequently affecting older people
d. A and C
e. All of the above.

**7. When salivary flow is decreased:**

a. Acidity in the mouth rises
b. Oral microbial counts climb
c. Remineralization of the incipient caries is increased
d. A and B
e. All of the above.

**8. The population group(s) of elders who suffer from poverty to a greater extent than most is/are:**
a. Single males
b. Single females
c. Minorities of either gender
d. B and C

**9. The percentage of all people over the age of 65 residing in nursing homes is:**
a. 4%
b. 11%
c. 15%

**10. Factors impeding dental care when a person resides in a nursing home are:**
a. Geographic isolation
b. High rates of impoverishment
c. Severe frailty
d. Cognitive impairment
e. All of the above.

**11. Dentistry for older adults will increasingly become focused on:**
a. Prevention
b. Maintenance
c. Restoration
d. Replacement
e. A, B, and C

**12. There are now more people in the U.S. over the age of 65 than there are children:**
a. Under the age of 8 years old
b. 15-20 years old
c. 21-25 years old

**13. The proportion of the population that is growing at the fastest rate are those elders who are:**
a. 65 years old
b. 75 years old
c. 85 years old

**14. As reported in the NHANES-III study (1988-1991), the percentage of U.S. adults 65 years or older who had sites that demonstrated pocket depths that were greater than or equal to 4mm was:**
a. 15.6 %
b. 37.6 %
c. 61.9 %

**15. As reported in the NHANES-IV study (1999-2004), the mean loss of attachment for U.S. adults 65 years or older was:**
a. 0.72 mm
b. 1.44 mm
c. 2.88 mm

**16. Based on the findings from the NHANES-III and -IV studies, major periodontal treatment needs of the elderly will be:**

a. Surgical
b. Focused strictly on homecare
c. Chemotherapeutic
d. Nonsurgical (scaling and root planing)

**17. Measures focused on the prevention of root caries for the elderly include:**

a. Supplemental fluoride rinses/gels
b. Xylitol chewing gum
c. Dietary counseling
d. All of the above.

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## About the Author


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Dr. Shay is currently the Director of Geriatric Programs for the Office of Geriatrics and Extended Care, US Department of Veterans Affairs. In this capacity he oversees the VA's twenty Geriatric Research, Education and Clinical Centers (GRECCs) and a variety of geriatric clinical programs nationally. He is also the section Chief for Dental Geriatrics at the Ann Arbor VA Medical Center and Adjunct Professor of Dentistry at the University of Michigan School of Dentistry. He is a Section Editor for the Journal of the American Geriatrics Society and is a Fellow of the American Society for Geriatric Dentistry, of the Gerontological Society of America, and of the American College of Dentists. For over twenty years he has limited his practice of dentistry to caring for very old adults who have significantly debilitating physical and cognitive disorders.

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