ORAL HEALTH AND THE AGING ADULT

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Learning Objectives

• Recognize common changes in dentition caused by aging.
• List the benefits of having natural dentition.
• Explain the role of nutrition in the oral health of aging populations.
• Discuss the relationship between oral health and disease processes in geriatric populations.
Oral and Systemic Health of the Aging Adult

- As an individual ages, the individual has an increased risk for systemic conditions that may impact their oral health.
- 50% of individuals 75 years and over have 3 or more chronic conditions and are taking 5 medications.

(Henry & Goldie, 2016)
Changes in Aging Dentition (Teeth) Attrition

(Kelleher et al., 2012)
Changes in Aging Dentition (Teeth)

Abfraction

http://www.thedentalarcade.com/blog/tooth-abfractions-2/
(Boyd et al., 2021; Henry & Goldie, 2016)
Common Changes in Aging Dentition (Teeth)
Abrasion

(Boyd et al., 2021; Henry & Goldie, 2016)
Changes in Aging Dentition (Teeth)

Erosion

(Boyd et al., 2021; Henry & Goldie, 2016)
Changes in Aging Dentition (Teeth) 
Root Caries (decay)

(Boyd et al., 2021; Henry & Goldie, 2016; Sancakli, 2019)
Decay/caries

https://www.bakerstreetdental.com/services/dental-decay/
Nutrition and Caries (Decay)

- Sugar & Carbs
- Consistency of foods
- Acid in food & beverages
- Frequency and time of exposure

(Boyd et al., 2021)
Biofilm (plaque) Retention Risk Factors

- Cognitive and physical disabilities
- Inadequate oral care
- Faculty restorations (fillings, crowns)
- Partial dentures
- High carbohydrate diet
- Frequency of snacking/intake of sugary drinks
- Xerostomia (dry mouth)

(Boyd et al., 2021)
Dental Plaque: Biofilm

https://waverleyoaksdental.com/plaque-and-your-teeth/
Common Oral Conditions in Older Adults

• Bone Loss

• Risk factors for bone loss:
  • Osteoporosis
  • Periodontal disease
  • Occlusal forces when disease is present

https://www.firstimpressionsdds.com/blog/periodontaldisease/ (Gehrig et al., 2019)
Common Oral Conditions in Older Adults
Gingival recession (gums receding)

(Gehrig et al., 2019)
Common Oral Conditions in Older Adults

Oral candidiasis

https://sideeffectsupport.com/blogs/professionals/xylitol-and-oral-candidiasis
Common Oral Conditions in Older Adults
Poor Fitting Prosthesis

Common Oral Conditions in Older Adults

• Risk factors for periodontal disease (gingivitis and periodontitis)
  • Bacteria found in biofilm (plaque) and calculus (tartar)
  • Lack of patient compliance
  • Inadequate professional treatment
  • Systemic diseases (diabetes)
  • Immuno-compromised
  • Smoking

(Boyd et al., 2021; Coll et al., 2020; Gehrig et al., 2019; Razak et al., 2014)
Gingivitis

(Gehrig et al., 2019)
Periodontal Disease

(Gehrig et al., 2019)
Benefits of Natural Dentition

- Proper chewing, swallowing, and speaking
- Less bone loss
- Increased taste
- Increased nutrition
- Emotional wellness

(Henry & Goldie, 2016; Kossioni, 2018; Müller et al., 2017)
Preventive Therapies for Caries (Decay)

• Proper oral care (self, professional)
• Fluoride
• Saliva substitutes (artificial saliva)
• Proper nutrition (vitamin D)

(Boyd et al., 2021; Coll et al., 2020; Razak et al., 2014)
Preventive Therapies for Periodontal Disease

- Proper oral care
  - Self-care (may have to be a caregiver)
  - Professional

- Saliva substitutes (artificial saliva)

- Proper nutrition (vitamin C and D)

- **Know the risks:** Age, smoking, diet and genetics can all increase your risk for periodontal disease.

(Boyd et al., 2021; Coll et al., 2020; Razak et al., 2014)
Prevention for Decay and Periodontal Disease
Proper Oral Care

• Toothbrushing (electric is preferred)
• Toothpaste with fluoride
• Interdental aids (flossing, water flosser, floss picks, tufted floss)
• Therapeutic mouthrinses
• Denture Care

(Boyd et al., 2021; Gehrig et al., 2019; Razak et al., 2014)
Electric Toothbrushes

- They have large handles.
- They require little or no arm or wrist movement.
- They help monitor pressure of the bristles while brushing.

(Razak et al., 2014)
Interdental Care

• Flossing (Gold standard)
• Floss holders
• Interdental brushes
• Water flossers
• Wooden sticks

(Gehrig et al., 2019; Razak et al., 2014)
Flossing Steps

1. Hold the floss strip between your teeth.
2. Wrap the floss strip around your tooth and under your gumline.
3. Gently move the floss strip up and down between your teeth.
4. Slide the floss strip under the gumline and repeat for each tooth.

https://www.thebelldentalgroup.com/blog/why-floss
(Boyd et al., 2021)
Oral Hygiene Aids for Interdental Areas

(Gehrig et al., 2019)
Oral Hygiene Aids for Interdental Areas

(a) 

(b) 

(c)

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(Gehrig et al., 2019)
Oral Hygiene Aids for Interdental Areas
Wooden Toothpicks

Figure 2: Woodstick as an Interdental Aid.

(Abdullah, 2018)
Oral Hygiene Aids for Interdental Areas
Water Flosser

https://www.themanual.com/grooming/best-water-flossers/
Therapeutic Mouthrinses

- There are therapeutic mouthwashes that help reduce or control plaque, gingivitis, bad breath, and tooth decay.
- Active ingredients that may be used in therapeutic mouthwash include:
  - cetylpyridinium chloride
  - chlorhexidine
  - essential oils
  - fluoride
  - peroxide

(Gehrig et al., 2019)
Denture Care

• Monitor the fit of the denture to prevent mouth sores and wearing down of the denture.

• Remove denture at night.

• Clean and massage the tissue under the denture at least once a day.

• Brush denture with a soft denture brush and soft soap.

• Place in a denture cleaner to ensure safety against damage of the denture.

(Boyd et al., 2021; Razak et al., 2014)
Denture Stomatitis

(Denture Stomatitis | Smiles for Life Oral Health, 2020; Puryer, 2016)
Professional dental care

- Dental hygiene therapy with RDH every 4-6 months
- Dental exam with DDS yearly
- Insurance

https://dentisthouston4smile.com/blog/why-preventative-dental-care-is-important/ (Gehrig et al., 2019)
Relationship of Oral Health and Cognitive Function

- Cognitive change can distract the individual’s attention away from their daily activities such as including oral care.
- Tooth loss and gingival inflammation are associated with lower cognitive performance.

(Boyd et al., 2021; Nangle et al., 2019)
### Relationship between Alzheimer disease and Oral Health

<table>
<thead>
<tr>
<th>Early stages</th>
<th>Individuals may forget to brush their teeth.</th>
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<tbody>
<tr>
<td></td>
<td>Have difficulty performing self-care.</td>
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<tr>
<td>Later stages</td>
<td>Individuals may be resistant to oral care.</td>
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<tr>
<td></td>
<td>Have difficulty eating and swallowing.</td>
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</tbody>
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(Boyd et al., 2021)
Relationship between Alzheimer disease and Oral Health

Periodontal disease → Microbial challenge

Immuno-inflammatory host response → Microglial activation

Alzheimer’s Disease

https://advancedentalbirmingham.com/tag/oral-systemic-health/
(Boyd et al., 2021; Gehrig et al., 2019)
Risk of Pneumonia in the Aging Adult

- The bacteria in the biofilm that causes periodontal disease can be inhaled, causing an infection in your lungs.
- The mouth acts as a reservoir for bacterial organisms that can travel systemically.

https://www.dentistrytoday.com/periodontics/1608
(Boyd et al., 2021; Coll et al., 2020; Gehrig et al., 2019; Müller et al., 2017)
Recap

• The connection is the link between the health of your mouth and your overall health.

• Older adults are more likely to have systemic diseases that requires medication that impacts their oral health.

• Attrition, abfraction, abrasion, erosion, and decay are common oral conditions on teeth of the aging adults.

• It is critical that the aging adult has proper nutrition to decrease the risk of periodontal disease and decay.
Recap

• Benefits of having natural dentition aids in chewing, swallowing, speaking, adequate taste, as well as emotional wellness.

• Prevention of decay includes self-care and professional oral care, fluoride, saliva substitutes, and proper nutrition.

• Prevention of periodontal disease includes self-care and professional oral care, saliva substitutes, and proper nutrition.
Recap

- Oral care includes utilizing an electric toothbrush, toothpaste with fluoride, interdental aids, therapeutic mouthrinses, and proper denture care.
- There is a relationship between cognitive function and oral health.
- There is a relationship between Alzheimer disease and periodontal disease.
QUESTIONS?
References


- Sancaklı, H. S. (2019). Carious Destruction of the Remaining Teeth: Diagnostic and Treatment. In A. Mersel (Ed.), Oral Rehabilitation for Compromised and Elderly Patients (pp. 97–110). Springer International Publishing. [https://doi.org/10.1007/978-3-319-76129-9_7](https://doi.org/10.1007/978-3-319-76129-9_7)