

Oral Health in the Elderly

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WHY ORAL HEALTH?

Oral Health Problems



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Without Oral Care & Treatment, Adults and Seniors are at Risk for ...

- Tooth Decay
- Gum Disease
- Chronic Illnesses
- Dry Mouth
- Poor Nutrition
- Denture Problems
- Oral Cancer



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Scope of Oral Health Problems for Seniors

- More seniors than ever are aging with their natural teeth.
- Seniors are at high risk for gum disease, root caries, and oral cancers.
- Percent of adults aged 65 and over with a dental visit in the past year 64.3% (2016)
- About 80% of seniors over age 65 have at least some of their teeth
- Evidence based studies link poor oral health to poor overall health - and health treatments to oral health outcomes.



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Seniors Lack Access to Dental Care

- Most retirees no longer have dental insurance
- Medicare does not cover dental
- Medicaid cut dental care benefits for adults in 2011 limiting services including periodontal treatment
- Eight percent of Pennsylvania's older adults live at or below the federal poverty level -- choosing to pay for dental care out of pocket versus their medications is not realistic
- Many seniors have a limited understanding of the importance of preventive dental care and the relationship between oral health and their overall health
- The prevalence of untreated caries was 42.2% among adults 65 years of age and older in the $\leq 100\%$ FPL income category and 9.9% in the $\geq 400\%$ FPL category



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Topics for discussion

- General anatomy
- Common oral conditions in geriatric patients
- Pharmacologic effects on oral health
- Aids to oral health
- Medical/dental connection
- Treatment objectives
- Q&A

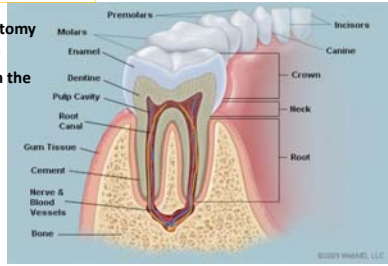


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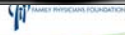
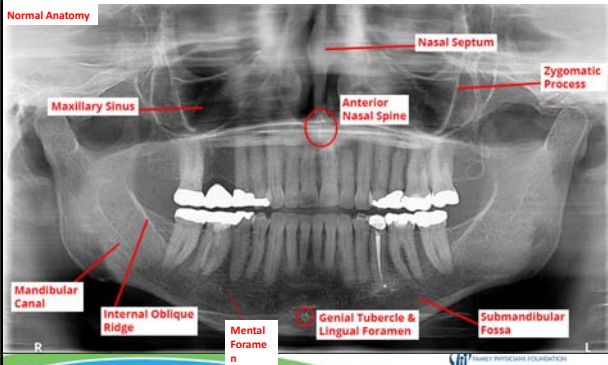
General Anatomy

- Teeth and gingival anatomy
- Radiographic anatomy
- Age related Changes in the dentition



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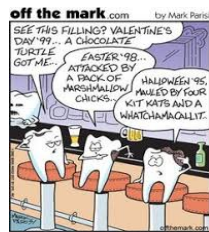
Normal Anatomy



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Common Oral Conditions

- Age related changes
- Dental wear/non-carious cervical lesions(abfraction)
- Gingivitis/Periodontitis
- Root caries
- Candidiasis
- Common Benign findings
- Oral cancers



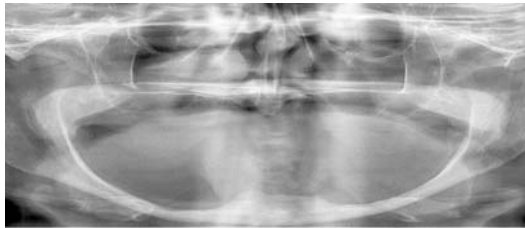
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Age Changes

- The bone is greatly reduced in size when teeth are lost
- Alveolar process is resorbed
- The mandibular canal and mental foramen are closer to the alveolar border.
- The ramus is oblique, the angle measure 140 degrees, the neck of the condyle is more or less bent backward.



Severely Atrophied Mandible



Gingival Recession

- Etiology:
 - Plaque-induced gingival inflammation
 - Faulty tooth brushing
 - Anatomic factors/habits / physiologic factors
 - Bone recedes with gingiva

Recession with lack of attached gingiva can lead to roots being exposed (susceptible to decay) and if untreated tooth loss



No attached gum

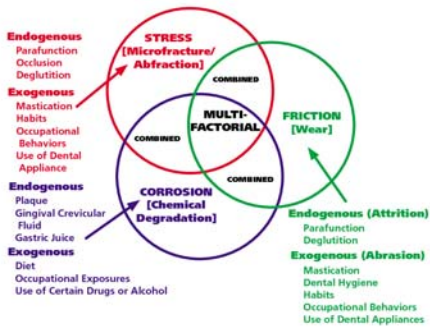
Changes in the Older Dentition





Non-Carious Cervical Lesions

- Multifactorial
- Stress
- Corrosion
- Friction



Periodontitis

- A chronic bacterial infection that affects the gums and bone supporting the teeth.
- Periodontal diseases range from simple gum inflammation to serious disease that results in major damage to the soft tissue and bone that support the teeth.



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Root Caries



Root caries has become an important dental problem because people are living longer and keeping their teeth longer.

The elderly population are more prevalent to root caries.

- Exposure of root surfaces
- Decrease salivary flow or xerostomia,
- Diminished manual dexterity (poor oral hygiene)
- Cognitive deficits
- shift from complex to simple sugars



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Candidiasis

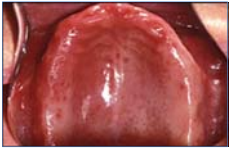
(THREE TYPES)




1. **Pseudomembranous oral candidiasis:** characterized by the appearance of white moss
2. **Erythematous oral candidiasis:** Characterized by the eruption of erythema
3. **Hyperplastic oral candidiasis:** Characterized by mucosal hyperplasia.



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Erythematous Oral Candidiasis → 


Hyperplastic Oral Candidiasis → 

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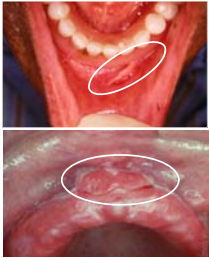
Angular Cheilitis
(Fungal infection)

- Immunocompromised
- Nutritional deficiencies
- Xerostomia
- Loss of muscle tone



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Epulis Fissuratum

□ A benign hyperplasia of fibrous connective tissue which develops as a reactive lesion to chronic mechanical irritation produced by the flange of a poorly fitting denture.

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Geographic Tongue



- Affecting about 1% to 3% of people, geographic tongue can show up at any age.
- However, it tends to affect middle-aged or older adults more often.
- It appears to be more common in women than in men.





Maxillary & Mandibular Tori

- The etiology of torus palatinus or mandibularis is unclear. The most widely accepted theory is genetics.
- Tori present as very slow-growing lesions that usually stop spontaneously. They are usually located at the midline of the hard palate or the lingual aspect of the mandible.
- They usually do not produce any symptoms, except in cases of significant growth or in edentulous patients because of the friction with prostheses.



Lingual Varices



Normal Pigmentation



Oral Cancer

The most common symptom of oral cancer is a sore in the mouth that does not heal. Other symptoms include:



- A lump in the mouth or throat or on the lip
- A white or red patch on the gums, tongue, or the lining of the mouth
- Bleeding, pain, or numbness in the mouth
- A sore throat that does not go away
- Difficulty or pain when chewing or swallowing
- Swelling of the jaw
- A change (hoarseness) in the voice
- Pain in the ear.

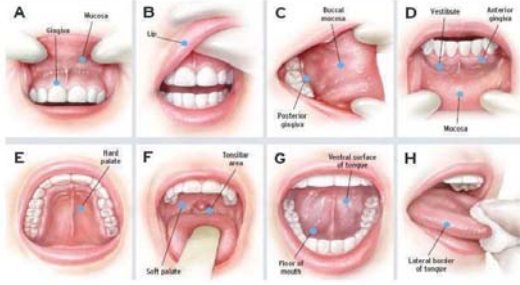
Oral Cancer Deaths

- Each year, more than 30,000 new cases of cancer of the oral cavity and pharynx are diagnosed and over 8,000 deaths due to oral cancer occur. **The 5-year survival rate for these cancers is only about 50 percent.**
- Death rate is nearly twice as high in some minorities (especially black males) as it is in whites.
- 60% of oropharyngeal cancers are linked to HPV

- Preventing high risk behaviors --- cigarette, cigar or pipe smoking, use of smokeless tobacco, and excessive use of alcohol are critical in preventing oral cancers.
- Early detection is key to increasing the survival rate for these cancers. **Per the CDC**



The 8-Step Oral Cancer Screening



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Self Oral Exam



- Face.** Examine the symmetry of the face in a mirror, and check for irregularities and new imbalance between the two sides.
- Lips.** Pull up upper and lower lips to check the texture and color.
- Gums.** Raise upper and lower lips to check color and conditions of the gums.
- Cheeks:** Draw back the side of the mouth to check inside the cheeks.
- Tongue and floor of mouth.** Move the tongue, check as far back as can be seen in the mirror, and feel the area.
- Palate.** Examine the upper palate as far back as you can see.
- Neck.** Feel for anything unusual on the sides of the neck.
- Trachea.** Hold the thyroid cartilage (the Adam's apple). It should go up and down when you swallow.

If you should discover any unusual lumps, bumps, spots or color changes, and so on, bring them to your dentist's attention as soon as possible.



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Pharmacology

- Xerostomia, diuretics, hypertensive drugs, psych meds, bisphosphonates
- Anticoagulants
- Drug induced gingival hyperplasia



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Dry Mouth or Xerostomia

- ✓ Too little saliva to keep your mouth wet/clean.
- ✓ Affects 1-3 older adults



➔ **Common symptoms** associated with dry mouth include a constant sore throat, burning sensation, problems speaking, difficulty swallowing, hoarseness or dry nasal passages.

➔ Without the cleansing effects of saliva, tooth decay and other oral health problems become more common



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Dry Mouth

❑ **Dry mouth** is a potential side effect of many medications (prescribed and over-the-counter) to include:

- ❑ Antihistamines, decongestants, painkillers, hypertension medications, muscle relaxants, drugs for urinary incontinence, Parkinson's disease medications, antidepressants and many others medications.

❑ Patients using oral inhalers for asthma often develop an oral fungal infection and are encouraged to rinse their mouths with water after using the inhaler.

Over 400 medications



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Salivary Substitute



How to Use XyliMelts Discs



Use your fingers or tongue, to place a XyliMelts disc on your gums beside a molar, upper or lower, with the white side facing your cheek and the tan adhesive side against your gums or a tooth or both.



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Bisphosphonates

- Inhibit osteoclast differentiation, reducing their activity, and causing osteoclast cell death
- Impair bone healing and remodeling in the mandible/maxilla
- Oral vs. IV
- since 2003- 4,000 cases of BRONJ
- Over 90% IV route
- Risk less than 1% for IV
- Orally- 0.1% spontaneous and 0.5% with dental surgery
- Increased risk with tobacco use, corticosteroid use, diabetics, prolonged use



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Bisphosphonate Related Osteonecrosis of the Jaws

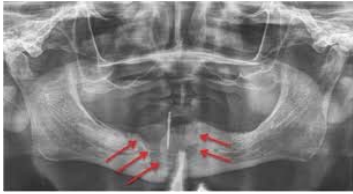


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Radiograph BRONJ



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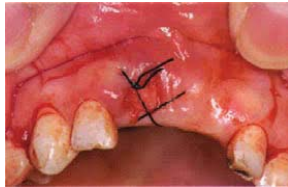
Radiograph BRONJ



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Anticoagulation Therapy

- Typically we do not stop anticoagulation therapy for dental surgery.
- Prophylactic measures are taken to minimize the risk of post op bleeding.
- Patients are going to be more prone to post op bleeding. When this occurs we address with local measures. **Patient compliance and pressure are key!!**
- Coumadin- prefer INR in the 2.5- 3.0 range.
- We will preform surgery above 3.0 but my experience has been we see an increase in patients returning with post op bleeding.
- Bridge therapy coumadin/lovenox




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Drug Induced Gingival Hyperplasia

- Phenytoin
- Cyclosporin
- Ca Channel Blockers (nifedipine, amlodipine)
- Phenobarbital



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Aids to oral health

- Brushing and flossing aids
- Fluoride rinses/ prescription toothpaste
- Salivary substitutes
- Self oral cancer exam

"That was bound to happen. Well, don't just stand there. Tell them you'll call back after you finish brushing your teeth."

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Brushing Aids

GripEasy by Chablis®
Assisted Oral Care Toothbrush Aid

Hand Strap Cuff

Maddak Universal Built-Up Handle


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Flossing Aids

Flossing Aids

- Interdental brushes that can fit between teeth.
- Floss picks with handles that can make it easier to floss with just one hand.
- Water flossers that direct water between the teeth in lieu of dental floss.
- Floss threaders that can be helpful for flossing under fixed bridges.



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Alcohol Free Fluoride Rinses

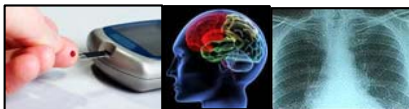
- Use once a day after brushing your teeth with toothpaste.
- Vigorously swish 10 mL (2 teaspoonfuls) of rinse between your teeth for 1 minute and then spit out.
- Do not swallow the rinse.
- Do not eat or drink for 30 minutes after rinsing.





Oral Health and Overall Health

- ❑ What happens in the mouth is often a reflection of what happens in the body.
- ❑ Oral Health has been linked to **diabetes, heart disease, stroke, and pneumonia.**
- **Research also links Periodontal disease, a chronic inflammatory disease to cardiovascular disease, diabetes, Alzheimer's and other diseases**
- Journal of Periodontology Aug 2008 Supplemental Issue



The Link Between Gum Disease and Diabetes

- Diabetes is a risk factor for periodontal disease, periodontal disease is a risk factor for Diabetes



- Studies indicate people with diabetes are **2 to 3** times more likely to develop periodontal disease than people without diabetes. (National Diabetes Education Program)
- The ADA advises people with diabetes to visit the dentist at least twice a year.
- This is because people with diabetes are generally more susceptible to bacterial infection and have a decreased ability to fight periodontal disease. (American Diabetes Assoc.)



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Oral Health Problems and Diabetes



- Problems associated with diabetes are:

- tooth decay
- periodontal (gum) disease
- salivary gland dysfunction
- fungal (yeast) infections
- inflammatory skin disease
- infection and delayed healing
- taste impairment
- elevated blood glucose

- ♥ An 11-year study of Pima Indians with Type 2 Diabetes noted that Periodontal disease was a positive predictor of mortality from

- Ischemic heart disease by 3.2 times
- Diabetic nephropathy. (kidney problems)

www.ada.org/prof/resources/pub/bjdammer/adaarticle.asp?articleid=1219



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Oral Health and Stroke

- Patients with Periodontal disease are more likely to suffer from Artherosclerosis Disease – a narrowing of the arteries that can lead to stroke



Possible cause:

- Oral bacteria via the blood attach to fatty plaque contributing to clot formation.
- Inflammation caused by periodontal disease increases plaque build up, which may contribute to swelling of arteries.

Per study part of NIH-INVEST (Oral Infections and Vascular Disease Epidemiology Study Aug 2004) at Columbia, the University of Minnesota and the National Institute of Neurological Disorders & Stroke funded Northern Manhattan Study



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Oral Health and Heart Disease

❑ Researchers have found that people with periodontal disease are almost **twice** as likely to suffer from coronary artery disease as those without periodontal disease.



• American Journal of Preventative Medicine, Dec 2005

Possible cause:

- Oral bacteria via the blood attach to fatty plaque contributing to clot formation.
- Inflammation caused by periodontal disease increases plaque buildup, which may contribute to swelling of arteries.



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Studies Show Association of Gum Disease to Heart Disease

- Cardiovascular disease, the leading killer of men and women in the United States, contributing to **2,400 deaths each day**.
- A study done by Arbes and colleagues, published in 1999, found that the odds of having a heart attack **increased with the severity of periodontal disease**.
- A study by Beck and colleagues (1996)
 - Followed a group of men age 21-80 years old who were free of Cardio Vascular Disease for a baseline.
 - Researched followed up after 18 years.
 - Found that loss of the alveolar bone (jaw bone, which is a measure of periodontal disease) at the baseline, was a predictor of heart disease incidents and stroke.



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Oral Health and Pneumonia

❑ A Japanese research group studied the provision of oral care after each meal for elderly, frail adults in 11 NHs in Japan to those not receiving the oral care after each meal and demonstrated that death from pneumonia decreased significantly with oral care.

❑ Good oral care reduces the number of potential pathogenic bacteria that might colonize the mouth that may reach the lungs.



• From the Dept of Geriatric & Respiratory Medicine, Tohoku University School of Medicine, Sendai, Japan and reported in Pulmonary Reviews.com Vol.7 No.9 September 2002



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Oral Health and Pneumonia

□ Pneumonia accounts for 1.2 million hospitalizations annually with over \$8 billion spent. (2006 CDC)



- When bacteria, viruses or, rarely, fungi living in your nose, mouth, sinuses, or the environment spread to your lungs, you can develop pneumonia or other infections.
- You can catch the bacteria or viruses from people who are infected with them, whether they are sick or not.



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Treatment Objectives

- Replacement of teeth
- Periodontal health
- Dental clearance



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Replacement of Teeth



- Dentures
- Partials
- Bridges
- Implants

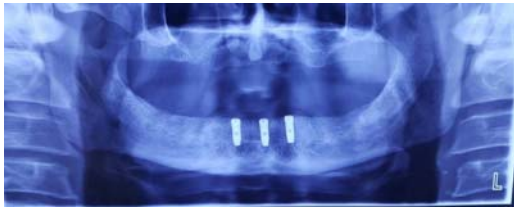


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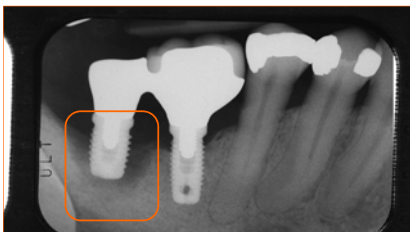
Implant Overdentures



Radiograph of Dental Implants



Failing Implant



Periodontal Treatment

Deep Cleaning



Grafting



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Dental Clearance

- Head and Neck Radiation
- Cardiovascular Surgery
- Joint Replacement
- Organ transplant



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Treatment Dilemmas



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