1) Why teeth matter
   a. Functional
      i. Nutrition/Digestion
      ii. Quality of Life
   b. Psychological
2) Connections between oral health and systemic health
   a. Estimated that 100 systemic diseases and 500 medications have oral manifestations. (AGD)
   b. Dementia
   c. Cardiovascular
   d. Inflammatory diseases
   e. Oral cancer/HPV
   f. Diabetes
   g. Pregnancy Complications/Low Birth weight
3) Currently Edentulous (missing all teeth)
   a. More than 36 million people in the U.S. are missing all their teeth
   b. 120 million are missing at least 1 tooth.
   c. In the geriatric population-
      i. Rate of edentulous is 2:1
      ii. About 23 million are completely edentulous
      iii. 12 million missing all teeth in one arch
   d. Number of partially edentulous will continue to increase to about 200 million over the next 15 years. (ACP)
4) Disease processes leading to lose of teeth:
   a. Caries/Cavities
   b. Periodontal disease
   c. Tooth Wear
5) Tooth Wear
   a. Normal Wear
      i. 29um per year for molars and 15 microns per year for premolars (Lambechts et al)
   b. Etiology of wear (Verrett)
      i. Men more wear than women. (Johansson)
      ii. Attrition
         1. Mechanical wear- Tooth to tooth wear
         2. No sensitivity
         3. Teeth wear at same rate as restorations.
      iii. Abrasion-
         1. Any other mechanical wear besides tooth to tooth wear.
2. No sensitivity
3. Teeth wear at same rate as restorations.

iv. Erosion- Chemical wear
   1. Cupped out lesions- amalgam islands, hypersensitive!
   2. Stomach acid- pH= 3.8.
   3. Critical pH of enamel= 5.5
   4. In a study of 100 pts referred for evaluation of tooth wear- 89% were determined to have erosion as a contributing cause. (Smith)

c. GERD-
   i. Signs on teeth
      1. Maxillary lingual (tongue side) is affected the greatest.
      2. Mandibular teeth minimally affected because of protection by the tongue and buccal mucosa
      3. Defects beginning at the gingival margins
      4. Maxillary molar/premolars- chamber-like defects on the lingual surfaces.
      5. May occur as a localized phenomenon at other locations if the acid is permitted to pool, for instance while sleeping.

   ii. Diagnosis-
      1. Typical symptoms- Heart burn, acidic taste in the mouth, belching, hypersensitivity of affected teeth.
         a. Sleep- pooled on one side.

   iii. Follow up- Difference in follow up care.

   iv. Medications to Treat
      1. PPI/H2 Blocker
         a. Side Effects- anemia related, renal failure.

   v. Impact on dental care
      1. Marginal effect around crowns.
      2. Leakage/fracture of crowns- Cost of full mouth rehab.
      3. With treatment of GERD have a good prognosis.

   vi. Implications for Primary Care

d. Silent Gerd- LPR- Laryngopharyngeal reflux
   i. Hoarseness, chronic cough, frequent throat clearing, mucus in the throat, or a lump in the throat.
   ii. Dental erosive damage is most common in patients with respiratory symptoms.
   iii. Triggers;
      1. Less known- negative intrathoracic pressure, pharyngeal swelling, neural damage, and dysautonomia.
      2. Rouse J.

   iv. Implications for Primary Care

e. Sleep Apnea- Flat tooth wear pattern on anterior/posterior teeth.
   i. Diagnosis
1. Sleep study- Polyomnogram  
   a. AHI- not a complete diagnostic tool
2. Wrist O2 monitor- screen patients in dental office setting  
   a. Not of diagnostic quality, referral screening.
ii. Impact on dentition  
   1. Generalized tooth wear
iii. Implications for Primary Care  
   1. Cardiovascular morbidity  
   2. Obesity  
   3. Cortisol release
iv. CPAP  
   1. Compliance- % of patients who actually wear these.
v. Mandibular repositioning devices  
   1. Types  
   2. Positives  
   3. Negative affects  
   4. Compliance
vi. Kids/versus adults  
   1. Orthodontic therapy versus adenotonsillectomy  
   2. Diagnosis in pediatric patients  
   3. Effects of open mouth breathing  
   4. Treatment recommendations  
   5. Intraprofessional Recommendations / Collaboration
f. Acidic juices/Soft drinks  
   i. Range of pH in juices versus pH of teeth  
   ii. How often and time span to drink.
   iii. Education  
   1. Al-Hiyaset, Maupome, Larsen, Harrison
g. Bulimia  
   i. Wear pattern on teeth that indicates bulimia.  
      1. Lingual wear on anterior teeth  
   ii. Implications
h. Alcohol  
   i. Evidence of chemical erosion in 92% of a clinical sample of 37 inpatients admitted for the treatment of chronic alcoholism.  
   ii. Observed more severe wear in those who drank regularly as compared with binge drinking.  
      1. Robb and Smith
6) Implant failure  
   a. Post head and neck radiation therapy  
   b. Osteoporosis  
   c. Medication related osteonecrosis  
      i. Bisphosphonates- IV versus oral  
      ii. Time implication on these drugs
iii. Dental implications- Evaluation and follow up with local dentist Prior to starting medication.

iv. Implications for Primary Care

d. Hormone replacement therapy-
   i. Implications for Primary Care
   ii. Loss of peri-implant bone

e. Uncontrolled Diabetes

f. Smoking- >20 cigarette per day.
   i. Zitzman

7) Acute care
   a. Avulsion
      i. What do you do if a dentist isn’t available
         1. Milk/Hank’s solution
         2. Do not rinse in water
         3. Loose ligature splinting of the teeth
      ii. Antibiotic use after replantation
      iii. Sequelae of avulsed teeth
         1. Discoloration
         2. Necrosis of the pulp
         3. Ankylosis
         4. Internal/External root resorption
         5. Cervical Root Fractures
            a. Pohl, Hasanuddin

iv. Dental care
   1. Endodontic therapy
   2. Non-rigid fixation
   3. Monitor over time- Pulp sensitivity testing for tooth necrosis

b. Fractured Teeth
   i. Ellis Classification
      1. Pagadala
      2. Treatment
   ii. Age relation
      1. Ellis

c. Implant timing in young kids
   i. Males versus females
   ii. Continued growth

d. Alternative prosthetic care.
   i. Maryland bridge
   ii. Braces
   iii. Retainers
References


