ORAL HEALTH IN THE COGNITIVELY IMPAIED OLDER ADULT

Drs. Howard Cowen and Lindsey Cosper
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Why good oral health is important
• Appearance and social interactions- smiling and laughing
• Ability to eat and the pleasure eating
• Diet type and nutrition
• Weight changes
• Speech and swallowing
• Hydration
• Behavior
• General health

• A larger proportion of the elderly population is keeping more of their teeth for a longer period of time
....is this a good thing?
How does this happen?

- Poor oral care
  - Physical and/or mental limitations
  - Behavioral challenges for caregivers
- Xerostomia/hyposalivation
- Diet

How do we prevent this?

1999 2005

Prevention Strategies

- Mechanical
- Chemotherapeutic

mechanical

- Customize to meet the needs of your patient...
Electric Toothbrushes

- Interplak
- Oral B
- Sonicare
- Oralgiene

Select appropriate toothbrush for patient’s needs

interplak

- $15-20
Oral B Electric Toothbrushes

Communication with the cognitively impaired Patient

• If the patient becomes agitated
  – Attempt again later or take break

• "Dance" with the patient, let them lead
  – Modify approach as needed

• Always approach the resident from the front, then move slowly and calmly to the side or back as necessary.

• Explain what you are doing, and assume the resident can understand more than he or she is able to express.
Techniques

• Bleeding
  – Keep brushing!
  – Gingivitis can be reversed in a few days—a few weeks with good OH

PREVENTION TREATMENT
Chemotherapeutic Agents

• In Office Fluoride
  – Fluoride gels and Fluoride varnish
• Home Fluoride
  – Dentifrices, gels, rinses
• Antibacterial
  – Chlorhexidine 0.12% rinse
  – Xylitol gum or candy

CHLORHEXIDINE

1. 46% overall caries inhibiting effect
2. Optimal timing, method of application, etc. not yet established
3. Presently, after all cavitated lesions, pits and fissures are sealed using 0.12% rinse BID for 2 weeks
4. Chlorhexidine gel 1% in-office applications, varnish in tray
5. Mutans streptococci are suppressed 3-6 months

Xerostomia/hyposalivation

• Saliva constituents:
  – Bicarbonate: buffer
  – Amylase: CHO digestion
  – Lysozyme: bacterial flora
• Increased caries
• Increased risk for infections—candidal infections, salivary gland infections (ascending parotitis or mumps)
• Dessicated oral mucosal surfaces
• Dysphagia and dysgeusia
• Inability to tolerate/function with removable prosthetics

Xerostomia effects on QOL

• Increased r/o infections
• Increased caries/periodontal disease
• Decreased nutritional intake
• Decreased denture wearing
• Discomfort—burning mouth/generalized soreness
• Decreased compliance with medications

• “drooling” patients can have xerostomia/salivary gland hypofunction!!
Hyposalivation—causes

- Sjogren's syndrome
- Diabetes
- Conditions affecting the CNS (Alzheimer’s disease)
- Psychogenic disorders (interference with neural transmission (depression, anxiety)
- Dehydration
  - Impaired water intake, water loss through tissue, blood loss, renal water loss, emesis, diarrhea
- Post-radiation therapy (unless total dose is <25 Gy)
  - Within one week of radiation tx, permanent salivary hypofunction (salivary gland tissues atrophy and become fibrotic)
- Apoptosis of serous-producing salivary cells

Hyposalivation—causes

- Medications (80% of the most commonly prescribed meds cause xerostomia)
- Anticholinergics & Antiparkinsonian agents
  - Methscopolamine bromide (Scopolamine), benztropine mesylate (Cogentin), diphenhydramine (Benadryl), trihexyphenidyl (Artane), oxybutynin (Ditropan)
- Antidepressants
  - SSRIs, MAOIs, and all TCA's, antihistamines (Elavil), trazodone (Desyrel), buspirone (Buspar)
- Antipsychotics
  - Chlorpromazine (Thorazine), haloperidol (Haldol), thioridazine (Mellaril), thiothixene (Navane), prochlorperazine (Compazine), trifluoperazine (Stelazine)
- CNS stimulants
  - Methamphetamine (Benzedrine), amphetamines, methyphenidate (Ritalin, Concerta), phenetermine (Fenestra, pseudoephedrine (Sudafed)
- Others: sedatives, antihistamines, antihypertensive agents (beta blockers, diuretics, CCBs, ACE inhibitors) cytotoxic agents, antiseizure meds, muscle relaxants, opioids and chemotherapeutic agents.

Xerostomia/hyposalivation treatment

- OTC Saliva substitutes
  - Mouthkote—Parnell (xylitol, sorbitol)
  - Pump spray
  - Oasis Mouthwash and Mouth spray (glycerin, sorbitol)
  - Oral Balance Moisturizing gel or liquid (glucose oxidase enzyme, sorbitol)
  - Biotene spray, rinse, or gel
  - Salivart Synthetic Saliva (NaCMC, sorbitol)
  - Stoppers4 Dry Mouth Spray (glycerin, xylitol)

***consider spray or gel for cognitively impaired patients

Xerostomia/hyposalivation treatment

- Saliva enhancement/mineralizing products:
  - Novamin (calcium sodium phosphosilicate)
  - Recaldent (Amorphous Calcium Phos stabilized by casein phosphopeptides
    - MI paste (10%)
    - Trident chewing gum (0.6%)

Xerostomia/hyposalivation

- Systemic cholinergic agents
  - **Pilocarpine (5mg qid) ($$$)
  - **Cevimeline (30mg tid) fewer adverse cardiac and pulmonary effects ($$$)

**avoid in patients with HTN, pulmonary/kidney/cardiovascular problems, multiple sclerosis or GI ulcers
**Xerostomia**

- Other remedies
  - Humidifier
  - Increase water intake
  - Sugar-free chewing gum/candy/mints
  - Use Lanolin for dry lips
  - Change drying meds (if appropriate)
  - Limit products with alcohol
  - (avoid whitening toothpastes with peroxide)

**Candidal infections**

- Pseudomembranous (thrush)
  - White plaques wipe off, leaving burning sensation
  - Cause: antibiotics/immunosuppression
- Erythematous
  - Red macules– burning sensation
  - Cause: antibiotics, xerostomia, immunosuppression
- Central Papillary Atrophy (median rhomboid glossitis)
  - Midline of posterior dorsal tongue
  - asymptomatic
  - Immunosuppression/idiopathic

**Candidal infections**

- Chronic Multifocal
- Denture stomatitis
  - asymptomatic
- Angular cheilitis
  - always concurrent intraoral infection

**Candidal infections**

- Candidal leukoplakia (hyperplastic):
  - **high risk of malignant transformation
  - Anterior buccal mucosa
  - White plaques are asymptomatic and NOT removable
- Mucocutaneous (rare)
- Endocrine-candidiasis syndromes (rare)
- Endocrine disorder develops after candidiasis

**What is the Risk of No Dental Treatment**

- Dentate patients who require help with feeding have 13x greater risk of aspiration pneumonia (Terpening, et.al.)
- Residents in nursing homes in Japan who received aid in oral care were 2x more likely to not have pneumonia over a 2 year period (Yoneyama, et.al.)
- Providing mechanical OH can prevent 1 in 10 deaths related to aspiration pneumonia

[Note: Image links are placeholders and are not clickable.]

Aspiration pneumonia

• The leading cause of death, and second most common cause for hospitalization of nursing home patients
• Providing mechanical OH can prevent 1 in 10 deaths related to aspiration pneumonia
• Symptoms:
  – Low-grade fever, altered mental status, decreased oral intake, malaise, pleuritic chest pain, tachypnea, and cough
• Risk factors:
  – Poor OH
  – H/o CVA, bulbar palsies, esophageal disease, COPD, CHF, GERD (Langmore, 1998).
  – Immunocompromised patients
  – Alzheimer’s/dementia
  – Psychotropic and sedative drugs
  – Dysphagia
  – Poorly fitting prosthetics, or open VDO
  – Xerostomia

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90 y.o. female with Alzheimer’s ds

Oral Risk Factors and Aspiration Pneumonia Risk in Nursing Home Residents

• 2 factors significantly and independently predicted development of radiologically confirmed pneumonia:
  – inadequate oral care (absence of documented dental exam)
  – difficulty swallowing (dysphagia)

Prevention:
– Improve OH (position patient upright)
  • Pre-rinse with CHX 0.12%, soft bristle toothbrush or gauze soaked in saline/CHX 0.12% BID
  • Prior to breakfast and before bed (in case saliva is aspirated during eating/drinking)
  • G-tube/NPO: Sage Oral kits (sterile suction swabs, biotene rinse/gel) TID
– Address xerostomia

Aspiration pneumonia
NPO or patients who cannot expectorate

- 24-HOUR SUCTION SYSTEMS
  Q:Care® Rx with 0.12% Chlorhexidine Gluconate (CHG)
  Oral Rinse with Thumb Port

Treatment of the Dental Emergency in a Non-Communicative Patient

- Can we restrict dental treatment solely on the ground of cognitive impairment?

4 Major Principles in Biomedical Ethics

- To Do No Harm
- To Do Good
- To Respect Patient Autonomy
- To Treat Patients Fairly or Justly

Assessment of Pain

- Within the framework of these principles should be the provision of basic dental services, including the control of pain and infection.

- Onset, spatial distribution, sensory qualities and intensity
Potential signs of orofacial pain

- refusal to eat (particularly hard or cold foods)
- pulling at the face or mouth
- leaving previously worn dentures out of the mouth
- disturbed sleep
- refusal to take part in daily activities
- Aggressive/agitated behaviour.

Facial expressions during painful events have shown promise as a means of conveying important information about the presence of pain and have shown some consistent patterns.

LOCAL causes of orofacial pain

- Teeth and supporting tissues
- Jaw
  - Infection, trauma, malignancy, Paget’s disease, parafunction, stress
- Maxillary antrum
  - Sinusitis, tumor
- Salivary glands
  - Duct obstruction, trauma, infection
- Pharynx
- Eyes

Other causes of orofacial pain

- Neuropathic
  - Idiopathic trigeminal neuralgia
  - Malignant neoplasms (involving the trigeminal nerve)
  - Glossopharyngeal neuralgia
  - Herpes zoster/post-herpetic neuralgia
  - Multiple sclerosis (demyelination)
- Psychogenic
- Atypical
- Vascular
- Referred
  - EX: ischemic heart disease can radiate to the jaw and teeth

Parafunctional habits

- Any ulceration that has not healed in 3 weeks should be biopsied

- Cheek biting (linea alba)
Questions?