

# Oral Health in Geriatric Care

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# Why is Oral Health Important?

- Oral health is an important and often overlooked component of an older person's general health and well-being.
- The former Surgeon General C. Everett Koop: "You are not healthy without good oral health."

Vargas CM, Kramarow EA, Yellowitz JA. The Oral Health of Older Americans. Aging Trends; No.3. Hyattsville, Maryland: National Center for Health Statistics. 2001.

# Oral Health: The Silent Epidemic

“Oral health refers to the health of our mouth and, ultimately, supports and **reflects the health of the entire body.**”

Surgeon General Perspective: Surgeon General Regina M. Benjamin 2010

# Objectives:



1. Overview of the role of dental providers
2. Common oral health problems
3. Psychosocial issues
4. Review dental screening forms - The Kayser-Jones Brief Oral Health Status Examination (BOHSE) and Oral Health Examination
5. Inter-Professional Team Care and learning from your dental student via oral screenings
6. Questions

# 1. What do dentists do and use?

- Health care practitioners who specialize in the diagnosis, prevention, and treatment of diseases and conditions of the oral cavity
- Procedures include cleanings, fillings, crowns, endodontics, extractions, implants, dentures, surgery, and orthodontics
- Most dental procedures can cause bleeding and bacteremia
- Routine use of dental anesthesia (2% Lidocaine with 1:100K epinephrine)
- Dental procedures are **STRESSFUL!!!**



# What do dentists need to know about their patients and why?



- Medical conditions (Type, Treatments, Status, Lab results)
  - Ex. Cardiovascular diseases and conditions, Diabetes, Bleeding disorders
- History of surgery and hospitalization (when, for what reason, what treatments were rendered)
  - Ex. Total joint replacements, Cancer treatments
- Medications patient is taking
  - Ex. Bleeding risks, oral side effects

## 2. Common Oral Health Problems in Older Adults

- Periodontal disease (gum disease)
- Dental caries (cavities)
- Tooth loss (full or partial edentulism) and denture related problems
- Oral cancer
- Tooth wear



# Periodontal Disease

- Slow progressing chronic disease
- Exacerbated by presence of plaque/calculus
- Tissue destruction is largely irreversible
- Presence of gingival recession and periodontal pocketing



Source: Clinical periodontology and implant dentistry



[Diabetologia. 2012 January; 55\(1\): 21–31.](#)



# Dental Caries

- Greater incidence of root caries in the elderly
- Gingival recession leading to exposed root surfaces (less mineralized)
- Poor oral hygiene and accumulation of plaque
- Exacerbated by lack of saliva (xerostomia or dry mouth) through use of multiple medications (CAMBRA!)



Source: *JADA* 2007;138(9 supplement):15S-20S.

# Tooth Loss

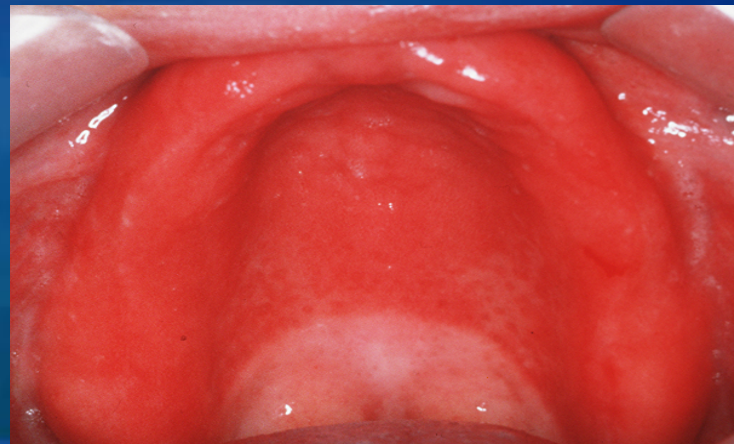
- Vary according to ethnicity, gender, socioeconomic status and general health condition (ie. older seniors, women, African Americans, lower SES, lower education status, current smokers)
- Complete tooth loss declined from 50% to 18% in the past 60 years.
- Retained more of their teeth, yet they still have high levels of disease
- 27.27% of seniors over age 65 have no remaining teeth

**Data Source:** The National Health and Nutrition Examination Survey (NHANES)



# Denture-Related Problems

- Associated with greater tooth loss
- Denture-related stomatitis – inflammation and redness occur on the mucous membranes under the denture (usually fungal - *Candida* species in close to 90%)
  - Ways to treat: Plaque control
  - Verify proper denture fit and adaptation
  - Denture sanitization
  - Removal of denture at night
  - Antifungal agents (Clotrimazole or Nystatin lozenges)



# Oral Cancer

- Incidence: Nearly 40,000 new cases of cancer of the oral cavity and pharynx were diagnosed in 2012.
- Over 8,000 deaths due to oral cancer occur.
- More than half of these deaths occur among persons 65 years of age and older.

Source: CDC, National cancer institute at NIH and oral cancer foundation.

# Oral Cancer Screening



Source: Cawson's essentials of oral pathology and oral medicine

*Am Fam Physician.* 2010 Mar 1;81(5):627-634.

High risk areas: lateral borders, base of the tongue, floor of the mouth, oropharynx and tonsillar areas



Examples of oral cancer: Squamous cell carcinoma seen in the above three cases



Malignant melanoma



Verrucous carcinoma



Squamous cell carcinoma, arising actinic cheilitis

<http://oralcancerfoundation.org/dental/oral-cancer-images.php>

# Excessive Tooth Wear

- Daily wear and tear
- Excessive grinding or clenching (Bruxism)
- Attrition (includes bruxism and other parafunctional habits)
- Erosion (ex dissolution by acidic foods)
- Malocclusion



Source: Guldag MU, Buyukkaplan US, Ay ZY, Katirci G - Eur J Dent (2008)

Dental diseases are not part of normal aging.  
They are preventable and treatable!

Let's take a look at two very different  
elder patients as a comparison...





- Mr. C
- 91 y/o male
- Gastroesophageal reflux disease, glaucoma
- Medication: Pantoprazole
- Has his full complement of dentition with some crowns.
- Overall has good oral health





- Ms. H, 80y/o female
- Hypertension, Diabetes type II, osteoarthritis, spinal cord injury, visual and hearing impairment, thyroid condition
- Meds: Nifedipine, Synthroid, Janumet, Celebrex, Morphine
- Patient is missing many teeth, has several broken teeth, severe recession, recurrent decay, and has poor oral hygiene.



# Oral - Systemic Connections

- There is a cyclical pattern between oral and systemic health
- Poor systemic health often leads to more medications, inability to do oral hygiene and care
- More meds and poor OH lead to dry mouth and increased plaque
- This leads to more decay and periodontal disease
- Resulting in chronic inflammation and thus leads to even poorer systemic health
- It is a vicious cycle!



# 3. Oral Health and Psychosocial Connection

- Good oral health enhances our ability to:
  - Speak (ex. “F” and “S” sounds are difficult for those missing front teeth)
  - Smile
  - Smell and taste
  - Masticate (chew) and swallow
- Loss of teeth and untreated oral disease (caries and periodontal diseases) are associated with lower self-esteem and confidence
- Financial constraints can play a huge role in access to care
  - Paucity of dental insurance programs for the elderly (Dental now covers more dental treatment as of May 1, 2014)
  - Rise in cost of dental care



# 4. The Kayser-Jones Brief Oral Health Status Examination (BOHSE)

BOHSE Oral Health.pdf - Adobe Reader  
File Edit View Window Help

## Oral Health Assessment of Older Adults: The Kayser-Jones Brief Oral Health Status Examination (BOHSE)

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**WHY:** The bidirectional effects of systemic diseases such as cardiovascular disease, cerebrovascular accident (CVA), human immunodeficiency virus (HIV), diabetes, and pneumonia on oral health in older adults is well recognized (IOM, 2011). Almost 70% of Americans 65 and older have no dental coverage (McGinn-Shapiro, 2008) and by the time they enter nursing homes this unmet need for dental care may take back seat to the myriad of other demands imposed by comorbid conditions. The Institute of Medicine's report (2011) *Improving Access to Oral Health Care for Vulnerable and Underserved Populations* recognizes the barriers to oral care in the current health system and supports training nondental health professionals such as nurses to perform oral disease screening.

**BEST TOOL:** In a systematic review of oral health assessment by nurses and others in the care of cognitively impaired institutionalized residents, the Kayser-Jones Brief Oral Health Status Examination (BOHSE) was found to be the most comprehensive, validated and reliable screening tool (Chalmers & Pearson, 2005). The 10-item examiner-rated BOHSE catalogues oral health problems with a higher score identifying more problems. The BOHSE assessment begins with observation and palpation for enlarged cervical lymph nodes and includes a complete oral cavity evaluation. Using a pen light, tongue depressor, and gauze, the conditions of the oral cavity, surrounding tissues, and natural/artificial teeth are examined and categorically graded from 0 (normal) to 2 (significantly problematic).

**TARGET POPULATION:** The BOHSE was designed to evaluate the oral condition of nursing home residents, with and without cognitive impairment, by those providing nursing care. The BOHSE has been employed in a variety of populations including community-dwelling and hospitalized older adults, nursing home residents, and individuals with cognitive impairment (Chalmers, Spencer, Carter, King, & Wright, 2009; Chen, Chang, Chyun, & McCorkle, 2005; Lin, Jones, Godwin, Godwin, Knebl, & Niessen, 1999; Yu, Lee, Hong, Lau, & Leung, 2008).

**VALIDITY AND RELIABILITY:** Statistically significant test-retest reliability ( $r=.83-.79$ ), inter-rater reliability ( $r=.68-.40$ ), and content validity have been established by six field experts (Kayser-Jones, et al, 1995).

**STRENGTHS AND LIMITATIONS:** The BOHSE is a screening tool with demonstrated reliability and validity that should be used by nursing personnel in residential settings. Systematic use of this tool at scheduled times can facilitate the oral health triaging of residents to allow for timely care provided by the dentist.

**FOLLOW-UP:** Although the cumulative score is helpful, individuals who score on items with an asterisk that are underlined should be referred for a dental evaluation and exam and follow-up immediately. In general, a semi-annual checkup is recommended by a dentist for oral health assessment.

**MORE ON THE TOPIC:**  
Best practice information on care of older adults: [www.ConsultGerRN.org](http://www.ConsultGerRN.org).  
Chalmers, J.M., Spencer, A.J., Carter, R.D., King, F.L., & Wright, C. (2009). Caring for oral health in Australian residential care. Dental statistics and research series no. 48. Cat. no. DEN 193. Canberra: AIHW. Retrieved February 9, 2012 from [www.ar.cph.adelaide.edu.au/publications/report/statistics/pdf\\_09/Residential%20care%20DSR%2048.pdf](http://www.ar.cph.adelaide.edu.au/publications/report/statistics/pdf_09/Residential%20care%20DSR%2048.pdf)  
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# BOHSE Assessment

- The BOHSE was designed to evaluate the oral condition of nursing home residents, with and without cognitive impairment, by those providing nursing care.
- The BOHSE assessment begins with observation and palpation for enlarged cervical lymph nodes and includes a complete oral cavity evaluation.
- Using a tongue depressor and gauze, the conditions of the oral cavity, surrounding tissues, and natural/artificial teeth are examined and categorically graded from 0 (normal) to 2 (significantly problematic).
- Helps determine if urgent referral to dental provider is needed.

### The Kayser-Jones Brief Oral Health Status Examination (BOHSE)

Resident's Name \_\_\_\_\_

Date \_\_\_\_\_

Examiner's name \_\_\_\_\_

TOTAL SCORE \_\_\_\_\_

CATEGORY	MEASUREMENT	0	1	2
LYMPH NODES	Observe and feel nodes	No enlargement	Enlarged, not tender	<u>Enlarged and tender*</u>
LIPS	Observe, feel tissue and ask resident, family or staff (e.g. primary caregiver)	Smooth, pink, moist	Dry, chapped, or <u>red at corners*</u>	<u>White or red patch, bleeding or ulcer for 2 weeks*</u>
TONGUE	Observe, feel tissue and ask resident, family or staff (e.g. primary caregiver)	Normal roughness, pink and moist	Coated, smooth, patchy, severely fissured or some redness	<u>Red, smooth, white or red patch; ulcer for 2 weeks*</u>
TISSUE INSIDE CHEEK, FLOOR AND ROOF OF MOUTH	Observe, feel tissue and ask resident, family or staff (e.g. primary caregiver)	Pink and Moist	<u>Dry, shiny, rough red, or swollen*</u>	<u>White or red patch, bleeding, hardness; ulcer for 2 weeks*</u>
GUMS BETWEEN TEETH AND/OR UNDER ARTIFICIAL TEETH	Gently press gums with tip of tongue blade	Pink, small indentations; firm, smooth and pink under artificial teeth	<u>Redness at border around 1-6 teeth; one red area or sore spot under artificial teeth*</u>	<u>Swollen or bleeding gums, redness at border around 7 or more teeth, loose teeth; generalized redness or sores under artificial teeth*</u>
SALIVA (EFFECT ON TISSUE)	Touch tongue blade to center of tongue and floor of mouth	Tissues moist, saliva free flowing and watery	Tissues dry and sticky	<u>Tissues parched and red, no saliva*</u>
CONDITION OF NATURAL TEETH	Observe and count number of decayed or broken teeth	No decayed or broken teeth/roots	<u>1-3 decayed or broken teeth/roots*</u>	<u>4 or more decayed or broken teeth/roots; fewer than 4 teeth in either jaw*</u>
CONDITION OF ARTIFICIAL TEETH	Observe and ask patient, family or staff (e.g. primary caregiver)	Unbroken teeth, worn most of the time	1 broken/missing tooth, or worn for eating or cosmetics only	<u>More than 1 broken or missing tooth, or either denture missing or never worn*</u>
PAIRS OF TEETH IN CHEWING POSITION (NATURAL OR ARTIFICIAL)	Observe and count pairs of teeth in chewing position	12 or more pairs of teeth in chewing position	8-11 pairs of teeth in chewing position	<u>0-7 pairs of teeth in chewing position*</u>
ORAL CLEANLINESS	Observe appearance of teeth or dentures	Clean, no food particles/tartar in the mouth or on artificial teeth	Food particles/tartar in one or two places in the mouth or on artificial teeth	Food particles, tartar in most places in the mouth or on artificial teeth

Upper dentures labeled: Yes \_\_\_ No \_\_\_ None \_\_\_ Lower dentures labeled: Yes \_\_\_ No \_\_\_ None \_\_\_

Is your mouth comfortable? Yes \_\_\_ No \_\_\_ If no, explain: \_\_\_\_\_

Additional comments: \_\_\_\_\_

# Oral Health Examination Form

- 1. Extra-Oral and Intra-Oral Examination (oral cancer screening)
- 2. Dental Examination (missing teeth, existing fillings/crowns, decayed teeth)
- 3. Periodontal Examination (inflammation, recession, plaque, calculus, mobility)
- 4. Evaluate existing prostheses
- From these results, you can recommend if urgent care or regular dental care is needed



**Oral Health Examination Form**

Patient Name: \_\_\_\_\_ DOB: \_\_\_\_\_

Chief complaint: \_\_\_\_\_

Pain Scale (0/10 – 10/10): \_\_\_\_\_

**1. Extra-Oral and Intra-Oral Examination (Any lesion)**

Area:	YES	NO
Head, Neck and Face	<input type="checkbox"/>	<input type="checkbox"/>
TMJ	<input type="checkbox"/>	<input type="checkbox"/>
Thyroid	<input type="checkbox"/>	<input type="checkbox"/>
Lymph Nodes	<input type="checkbox"/>	<input type="checkbox"/>
Salivary Glands	<input type="checkbox"/>	<input type="checkbox"/>
Saliva	<input type="checkbox"/>	<input type="checkbox"/>
Lips	<input type="checkbox"/>	<input type="checkbox"/>
Commissures	<input type="checkbox"/>	<input type="checkbox"/>
Buccal Mucosa	<input type="checkbox"/>	<input type="checkbox"/>
Palate	<input type="checkbox"/>	<input type="checkbox"/>
Pharynx	<input type="checkbox"/>	<input type="checkbox"/>
Floor of the mouth	<input type="checkbox"/>	<input type="checkbox"/>
Gingiva	<input type="checkbox"/>	<input type="checkbox"/>
Tongue	<input type="checkbox"/>	<input type="checkbox"/>

Comment: (Describe for any "Yes" answer)

**2. Dental Examination (Please indicate the tooth numbers for corresponding field)**

Missing	
Decay	
Filling	
Comment	

**3. Periodontal Examination**

Condition	YES	NO
Inflammation	<input type="checkbox"/>	<input type="checkbox"/>
Recession	<input type="checkbox"/>	<input type="checkbox"/>
Plaque	<input type="checkbox"/>	<input type="checkbox"/>
Calculus	<input type="checkbox"/>	<input type="checkbox"/>
Mobility	<input type="checkbox"/>	<input type="checkbox"/>

Oral Hygiene Status: \_\_\_\_\_

Comment: \_\_\_\_\_

**4. Prosthesis Examination (If patient is wearing removable prosthesis)**

DENTAL SCREENING Date: \_\_\_\_\_

Resident's name \_\_\_\_\_

Student's name \_\_\_\_\_

Faculty's name \_\_\_\_\_ Group \_\_\_\_\_

*The resident has received a dental screening at Tres Lomas. This is a "basic" screening performed with a dental mirror and tongue depressor and does not take the place of a regular check-up and x-rays.*

As of this date, this screening indicates the following for the resident:

- \_\_\_ (3) **URGENT CARE NEEDED**  
Please call your dentist right away for pain, injury or dental conditions that need immediate care.
- \_\_\_ (2) **DENTAL CARE NEEDED**  
A Dentist will need to thoroughly examine teeth within a couple of weeks to determine if treatment is needed such as fillings, cleaning, prosthetic device etc.
- \_\_\_ (1) **TEETH AND GUMS APPEAR HEALTHY**  
However, this was only a screening. The resident should have regular check-ups every 6-12 months by a dentist.
  - The resident has been to a dentist during the last year.
  - It is recommended that the resident improve dental cleaning/brushing/flossing at home.
  - It is recommended that the resident talk to his/her dentist in the near future about advice on preventive dental care.

**NEED TO FIND A DENTIST?**

If you need the name of a dentist who accepts **Medi-Cal**, please call:  
**Medi-Cal** (800) 322-6384

If you need low cost dental care, please call:

PCC Dental Hygiene Clinic	(626) 585-7241
Amjoy Vista Family Health Center	(323) 254-6221
Martin Luther King/Drew Medical Center (Extraction only)	(310) 688-4210
Pediatric and Family Medical Center	(213) 747-6542 x 3316
LAC/USC Health Care Network (Extraction only)	(323) 409-6013
Saint John's Well Child Center	(213) 749-0947
UCLA School of Dentistry	(310) 206-5904
El Monte Comprehensive Health Center	(626) 579-6391
Ostrow School of Dentistry of USC	(215) 740-2805

Pacoima  
Meet Each Need with Dignity (MEND) (818) 896-0246

Van Nuys  
Valley Care/Mid Valley Health Center (818) 947-4023

## 5. Inter-Disciplinary Team Care

- Oral screenings can be done by all health care providers!
- Can potentially help save lives (early detection and/or prevention)
- Referral to a dental specialist if suspected oral health issues are present (if screening yielded any items with an asterisk on the BOHSE)

# Examples of Inter-Professional Roles in Oral Care

- Learn about and teach oral health screenings and educating other health care providers and patients about importance of oral health (all providers)
- Evaluate medical conditions and effects and contraindications to dental procedures (Medicine, Physician Assistant)
- Check drug interactions and allergies to meds (Pharmacy)
- Access to dental care, psychosocial conditions (Social Work)
- Implementation and individualization of oral hygiene care and nutritional needs (Physical Therapy, Occupational Therapy)

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6. Questions?

Thank you!