Aging Well – Dental care for older adults

Dr Susanne Kölare Jeffrey, DDS PhD

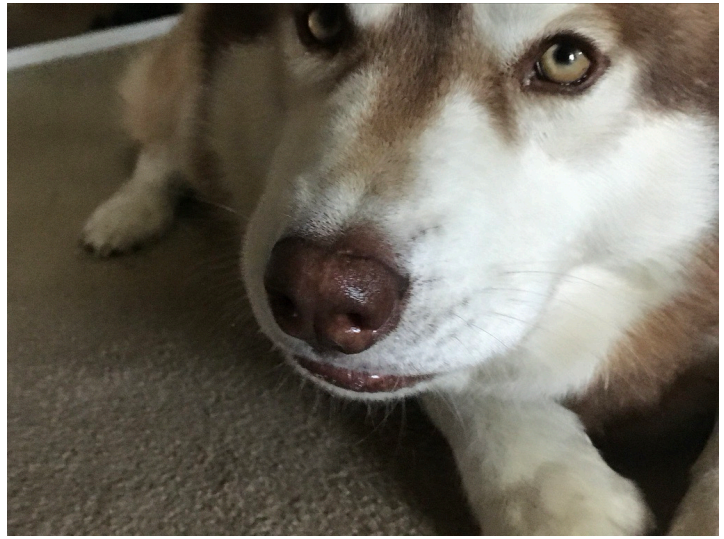
Clinical Assistant Professor,
Restorative Dentistry, UW SoD

Who I am ☺

- ”Mum” to a rescue Husky named “Gambit” and a senior cat called “Dottie”
- I love to cook (currently it’s Italian)
- My favorite place to camp at/rent a cabin at is Kalaloch, at the Pacific Ocean
- I have traced many cousins who immigrated from Sweden to the US, and even met some on my mother’s side at IKEA in Renton
- I have a background in basic science, was a ”Saliva Fellow” at NIDCR when I first started at UW in 2005, and I am still intrigued by how the quality of saliva affects oral health


SUZZALLO and ALLEN LIBRARIES


A38




ICAL
MS™


MEDICAL TEAMS
DMC

US population

- There are about ***35 million*** edentulous people in the US, and ***178 million*** people are missing at least one tooth
    - Roughly 90% of the US edentulous population wears dentures
- ***51%*** of Americans, ages 55 to 64, wear full or partial dentures
- ***29%*** of Americans, ages 45 to 55, wear full or partial dentures
- ***16%*** of Americans, ages 35 to 44, wear full or partial dentures

• The number of partially edentulous people will continue to increase in the next 15 years to more than 200 million individuals. Partial edentulism affects the majority of adult Americans.

Source: American College of Prosthodontics

“Why do figs, when they are soft and sweet, produce damage to the teeth? Perhaps because the viscous softness of the fig causes small particles to adhere to the gums and insinuate themselves into the dental interstices, where they very easily become the cause of putrefactive processes.”

Aristotle
(385 BC – 323 BC)

Caries throughout Life

Children
2 – 4 yrs

20% detectable caries

Young adults
17+ yrs

80% has had a cavity

Middle adults
35 – 44 yrs

75% has lost a tooth

Older adults
60+

Root surface caries

Good news: **Teeth do not age**

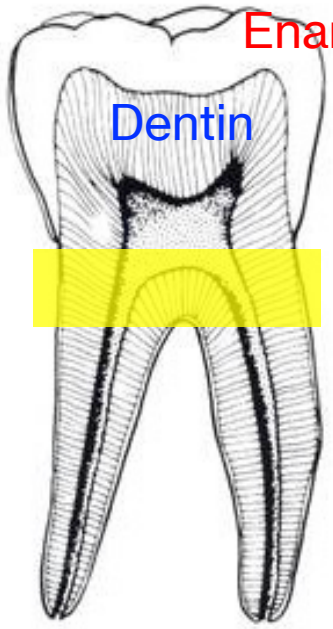
Bad news: It's all about our habits

Teeth

28 teeth

\+

4 “wisdom” teeth



Thickness

Enamel 0.12 inch

3 mm

Dentin at the gingival margin

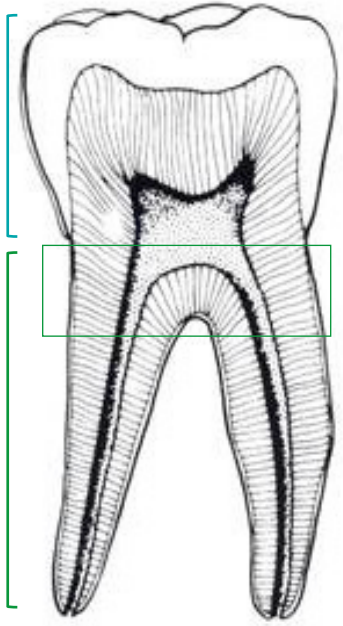
0.1 inch

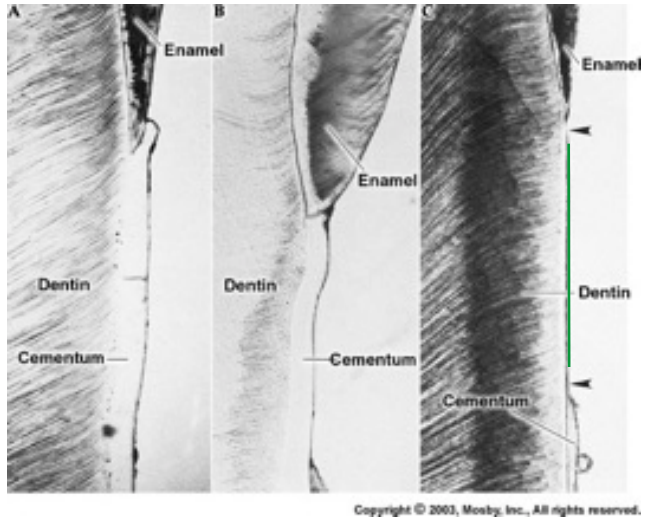
2.5 mm

Root surface caries

- 50% of older adult over 65 y/75 y have root caries
  - Patients who have lived in fluoridated areas throughout most of their lives have a lower prevalence of root caries

- Demineralization
  - Critical pH Enamel: pH 5.2 – 5.5
  - Critical pH Cementum: pH 6.1 - 6.7





TenCate:
Afibrillar Acellular Cementum

Sources: Center for Disease Control and Prevention, 1992; Ten Cate: Oral Histology

Caries

- Tooth decay
- Caused by “*biofilm*” – layers of bacteria (Str. Mutans) that attach to your teeth
- Oral bacteria ”feed on” sugar and produce lactic acid, which leads to a demineralization of enamel and dentin
- *The demineralization can be halted and reversed*
  - *Less acidic diet*
  - *Exchange sugar for a sugar alcohol (Xylitol)*
  - *Regular dental exams with cleanings*
  - *Use of fluoride at higher concentrations in tooth paste and varnish (Rx)*
  - *Homecare using an electric toothbrush and interdental cleaning tools (Waterpik ☺)*

  - Use of many medications (4+) will give you less saliva, which means that your homecare is even more important!

Caries Risk Assessment

ADA American Dental Association®
America's leading advocate for oral health

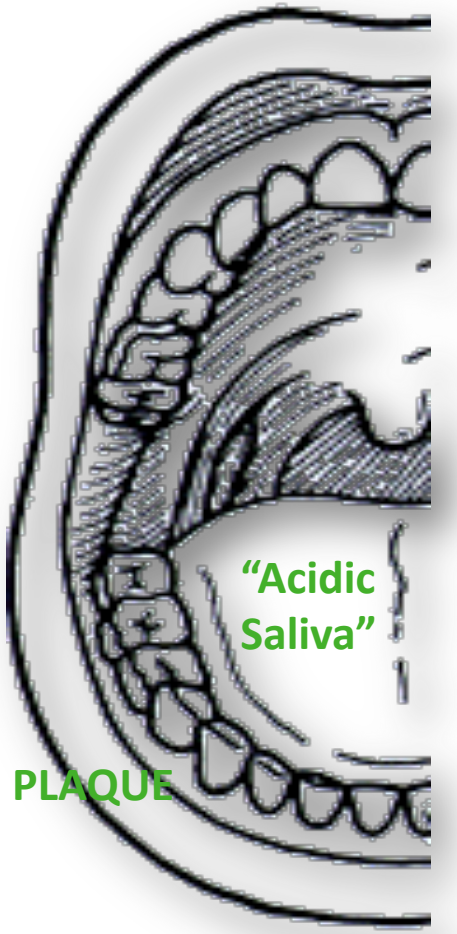
Caries Risk Assessment Form (Age >6)

Patient Name:				
Birth Date:			**Date:**	
Age:			**Initials:**	
		Low Risk	**Moderate Risk**	**High Risk**
Contributing Conditions		**Check or Circle the conditions that apply**		
I.	**Fluoride Exposure** (through drinking water, supplements, professional applications, toothpaste)	☐ Yes	☐ No	
* II.	**Sugary Foods or Drinks** (including juice, carbonated or non-carbonated soft drinks, energy drinks, medicinal syrups)	Primarily at mealtimes ☐		Frequent or prolonged between meal exposures/day ☐
III.	**Caries Experience of Mother, Caregiver and/or other Siblings** (for patients ages 6-14)	No carious lesions in last 24 months ☐	Carious lesions in last 7-23 months ☐	Carious lesions in last 6 months ☐
IV.	**Dental Home**: established patient of record, receiving regular dental care in a dental office	☐ Yes	☐ No	
General Health Conditions		**Check or Circle the conditions that apply**		
I.	**Special Health Care Needs** (developmental, physical, medical or mental disabilities that prevent or limit performance of adequate oral health care by themselves or caregivers)	☐ No	Yes (over age 14) ☐	Yes (ages 6-14) ☐
* II.	**Chemo/Radiation Therapy**	☐ No		☐ Yes
III.	**Eating Disorders**	☐ No	☐ Yes	
IV.	**Medications that Reduce Salivary Flow**	☐ No	☐ Yes	
V.	**Drug/Alcohol Abuse**	☐ No	☐ Yes	
Clinical Conditions		**Check or Circle the conditions that apply**		
* I.	**Cavitated or Non-Cavitated** (incipient) **Carious Lesions or Restorations** (visually or radiographically evident)	No new carious lesions or restorations in last 36 months ☐	1 or 2 new carious lesions or restorations in last 36 months ☐	3 or more carious lesions or restorations in last 36 months ☐
* II.	**Teeth Missing Due to Caries in past 36 months**	☐ No		☐ Yes
III.	**Visible Plaque**	☐ No	☐ Yes	
IV.	**Unusual Tooth Morphology** that compromises oral hygiene	☐ No	☐ Yes	
V.	**Interproximal Restorations - 1 or more**	☐ No	☐ Yes	
VI.	**Exposed Root Surfaces** Present	☐ No	☐ Yes	
VII.	**Restorations with Overhangs** and/or **Open Margins**; **Open Contacts** with Food Impaction	☐ No	☐ Yes	
VIII.	**Dental/Orthodontic Appliances** (fixed or removable)	☐ No	☐ Yes	
* IX.	**Severe Dry Mouth (Xerostomia)**	☐ No		☐ Yes

Overall assessment of dental caries risk: ☐ Low ☐ Moderate ☐ High

Patient Instructions:

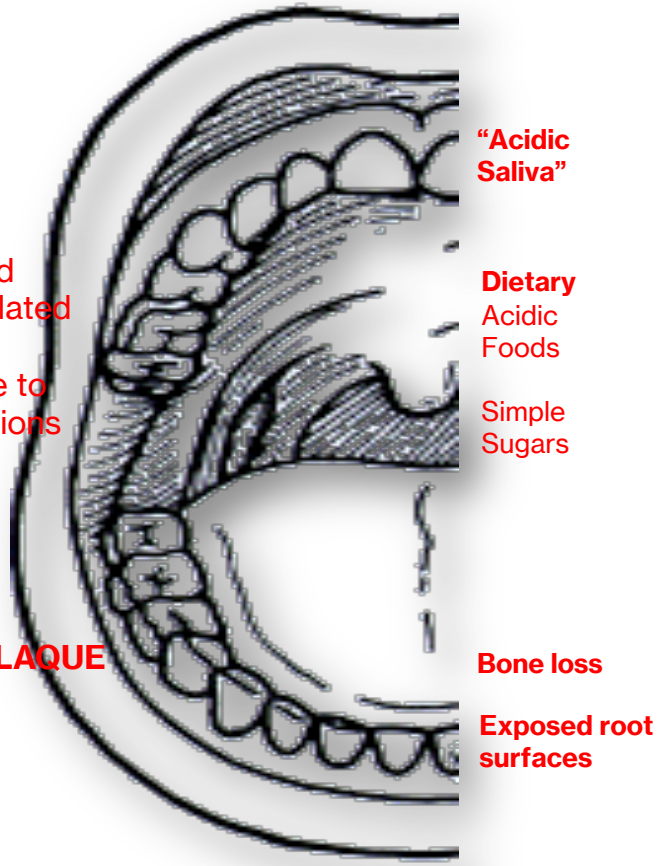
High Risk Caries Patients



Common features of High Risk Caries Patients

1. Chronic medical conditions, taking 4+ prescription drugs
2. Chemo/Radiation Therapy
3. Low unstimulated salivary flow
4. Low pH of unstimulated saliva
5. Visible plaque (active lesions)
6. Previous recent caries lesions or tooth loss
7. Exposed root surfaces
8. Diet
    1. Healthy (but demineralizing diet)
    2. Fermentable carbohydrates

Preventive care Strategies



1. ***Strengthen enamel and root cement/dentin*** *w/*
   a. NaF (Toothpaste of different strength, rinse, varnish, SDF)
   b. Aid in remineralization with *Ca $^{2+}$-containing toothpaste and/or cream*, if low salivary flow

2. ***Compensate for loss of saliva***
   a. Drink water
   b. Lubricate oral mucosa

3. ***Compensate for loss of buffer capacity***
   a. Alkalinize water with baking soda, avoid carbonated drinks
   b. Brush with baking soda-containing toothpaste (Arm & Hammer, Trader Joes)
   c. Change of diet to foods with a more neutral pH

4. ***Reduce glucose intake***
   a. Instead use Xylitol (Sorbitol)

5. ***Reduce bacterial growth***
   a. Antimicrobial rinse, 0.12% Chlorhexidine gluconate (or brush teeth and tongue with Chx)
   b. Chx varnish

Caries Risk Assessment & Preventive Measures

No new caries
in 3 years (*includes incipient lesions*)

Low risk

1 - 2 new caries in 3 years
- Exposed root surfaces
- No fluoride in drinking water
- 4+ medications
- Low pH unstimulated saliva
- Flow <0.16 mL/min unstimulated
- Visible plaque
- Interproximal restorations
- Drug/Alcohol abuse

Moderate risk

3 new caries in 3 years
- Teeth missing due to caries in past 3 years
- Chemo/Radiation therapy
- Severe dry mouth (<0.1 mL/min)

High risk

Sources: MyCambra (UCSF); Gluzman et al., 2013; ADA – Caries risk assessment

Caries Risk Assessment & Preventive Measures

No new caries
in 3 years (*includes incipient lesions*)

Low risk

REMINERALISATION

Professional Care:

- 1x yearly exam

Home Care:

- Brush 2x daily with NaF toothpaste ~ 1,100 ppm
- If exposed root surfaces, use ACP containing tooth-paste
- Supplement with a daily Rx 0.2% NaF rinse (Rx)

1 - 2 new caries in 3 years

- Exposed root surfaces
- No fluoride in drinking water
- 4+ medications
- Low pH unstimulated saliva
- Flow <0.16 mL/min unstimulated
- Visible plaque
- Interproximal restorations
- Drug/Alcohol abuse

Moderate risk

REMINERALISATION

Professional Care:

- 2x yearly exam
- NaF varnish (22,500 ppm)

Home Care:

- Brush 2x daily with NaF toothpaste ~ 1,100 ppm
- Alternate with 5,000 ppm toothpaste or gel.
- ACP products

ANTI-BACTERIAL

- 5-10 g of Xylitol each day (root caries prevention)

3 new caries in 3 years

- Teeth missing due to caries in past 3 years
- Chemo/Radiation therapy
- Severe dry mouth (<0.1 mL/min)

High risk

REMINERALISATION

Professional Care:

- 2-4x yearly exam
- NaF varnish (22,500 ppm)
- SDF (55,600 ppm)

Home Care:

- Brush 2-3x daily with Rx NaF toothpaste ~ 5,000 ppm
- Use Calcium containing Paste (MI paste/ReminPro) following brushing
- Baking soda rinses

ANTI-BACTERIAL

Rx:

- Rinse with 0.12% Chx

Home care:

- 5-10 g of Xylitol each day (root caries prevention)
- Diet modifications: Fermentable carbs, frequency and pH of foods

Sources: MyCambra (UCSF); Gluzman et al., 2013; ADA – Caries risk assessment; ADA – Topical fluoride for caries prevention

pH of Foods

Abalone	6.10 - 6.50
Abalone mushroom	5.00 -
Ackees	5.5
Aloe vera	6.1
Aloe Juice	**6.00 - 6.80**
Anchovies	6.5
Antipesto	5.60 -
Apple, baked with sugar	3.20 - 3.55
Apple, eating	3.30 - 4.00
Apples, Delicious	3.9
Apples, Golden Delicious	3.6
Apples, Jonathan	3.33
Apples, McIntosh	3.34
Apple Juice	3.35 - 4.00
Applesauce	3.10 - 3.60
Apples, Winesap	3.47
Apricots	3.30 - 4.80
Apricots, Canned	3.40 - 3.78
Apricots, Dried, stewed	3.30 - 3.51
Apricots, Nectar	3.78
Apricots, Pureed,	3.42 - 3.83
Apricots, Strained	3.72 - 3.95
Arrowroot Crackers	**6.63 - 6.80**
Arrowroot Cruel	**6.37 - 6.87**
Artichokes	5.50 - 6.00
Artichokes, canned, acidified	4.30 - 4.60
Artichokes, French, cooked	5.60 - 6.00
Artichokes, Jerusalem, cooked	5.93 - 6.00
Asparagus	**6.00 - 6.70**
Asparagus Buds	**6.7**
Asparagus Stalks	6.1
Asparagus, cooked	6.03 - 6.16
Asparagus, canned	5.00 - 6.00
Asparagus, frozen, cooked	6.35 - 6.48
Asparagus, green, canned	5.20 - 5.32
Asparagus, strained	4.80 - 5.09
Avocados	6.27 - 6.58
Baby corn	5.20 -
Baby Food Soup, unstrained	5.95 - 6.05
Bamboo Shoots +	5.10 - 6.20
Bamboo Shoots, preserved	3.50 - 4.60
Bananas	4.50 - 5.20
Bananas, red	4.58 - 4.75
Banana, yellow	5.00 - 5.29
Barley, cooked	5.19 - 5.32
Basil pesto	4.9
Bass, sea, broiled	**6.58 - 6.78**
Bass, striped, broiled	**6.50 - 6.70**
Beans	5.60 - 6.50
Beans, Black	5.78 - 6.02
Beans, Boston style	5.05 - 5.42
Beans, Kidney	5.40 - 6.00
Beans, Lima	6.5
Soy beans	6.00 - 6.60

Xylitol

- The best sugar substitute for your teeth

- Ice Cubes chewing gum
- Dr John's hard candy
- XyliMelts

- Toothpaste containing Xylitol

- Only backside is that too much Xylitol might give you an upset GI system → diarrhea

Consistency

- **Physical consistency** of foods is important due to their retention time in the mouth.
- Liquids are cleared rapidly, and sticky foods are cleared slowly.
- High retention rates are found in foods such as sweet biscuits, crackers and potato chips.

- Alkalinize water with baking soda
  - pH: 9
  - 1-2 tsp in 1 glass of water

- Use toothpaste containing baking soda
  - pH: 8
  - Arm & Hammer, Trader Joe's

Preventing/Arresting Root Caries

PREVENTING ROOT SURFACE CARIES

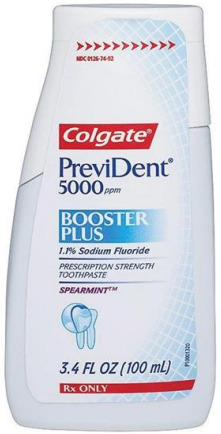
ACP – containing toothpaste

0.2% NaF

ARRESTING ROOT SURFACE CARIES

No SLS

5% Potassium Nitrate



TCP

TCP

Rx for 5,000 ppm paste

- *Example:* Toothpaste with added Calcium; Tri-Calcium Phosphate (TCP)

- Directions for Geriatric use – esp for Root surface caries

OFF - LABEL

Drug: ClinPro 5,000/PreviDent *Booster Plus*

Dosage: 5,000 ppm

Total: 1

Frequency: Use as your normal toothpaste. Brush 2-3x daily. Lightly expectorate. Do not rinse with water. Do not eat or drink for 30 mins after brushing.

Note:

Number of refills: 6

What happens when using 5,000 ppm toothpaste?

Root surface caries

- Clinically, toothpaste with increased fluoride content (5,000 ppm) results in increased fluoride content in plaque biofilm
  - Every 500 ppm added → 6% caries reduction

- "The application of a high-fluoride containing toothpaste (5000 ppm F) in adults, twice daily, significantly improves the *surface hardness* of otherwise untreated root caries lesions when compared with the use of regular fluoride containing (1350 ppm F) toothpastes."

- Root surface lesions hardens over a 6 month period
  - Brush 2x daily for 6 months

Srinivasan M et al (2013) High-fluoride toothpaste: a multicenter randomized controlled trial in adults

C Albert Yeung (2014) Some beneficial effect on Root Caries from use of higher concentration fluoride toothpaste

SDF

Silver Diamine Fluoride 38%

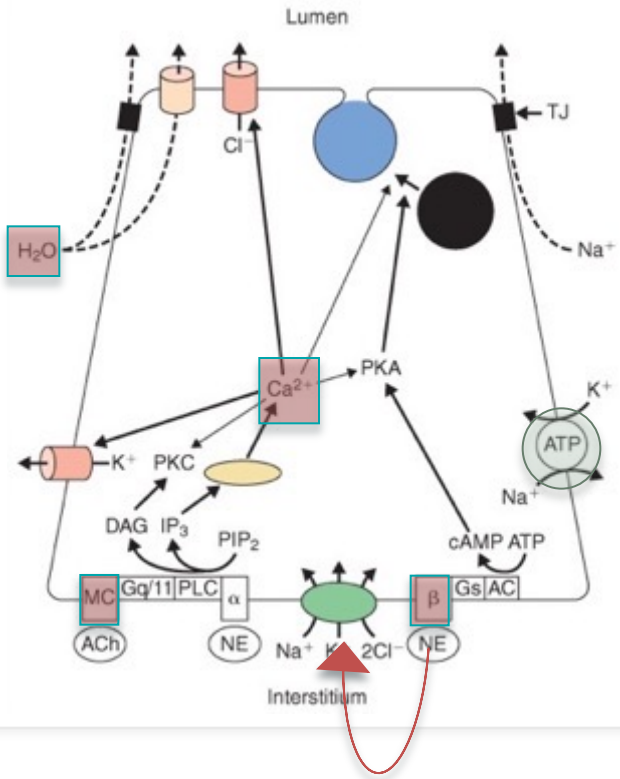
Tinted formula

Bought separately

Silver Diamine Fluoride 38%
Potassium Iodide (KI)

Medications which affect salivary flow

- Anti-cholinergic medication
- Beta-blockers
- Ca^{2+} antagonists
- Diuretics



Xerostomia inventory

- The xerostomia inventory (adapted from Thomson et al., 1999b).
-
    - I sip liquids to aid in swallowing food
    - My mouth feels dry when eating a meal
    - I get up at night to drink.
    - My mouth feels dry I have difficulty in eating dry foods
    - I suck sweets or lollies to relieve dry mouth
    - I have difficulties swallowing certain foods
    - The skin of my face feels dry
    - My eyes feel dry
    - My lips feel dry
    - The inside of my nose feels dry

- MacEntee, Michael I. (2011-06-09). Oral Healthcare and the Frail Elder: A Clinical Perspective (Kindle Locations 2147-2158). Wiley. Kindle Edition.

SALIVA

Saliva-Check BUFFER
Test for Saliva Quality, pH & Buffering Capacity

Saliva-Check BUFFER is a saliva-testing examination tool that is used to educate patients, assist in preventive treatment planning and properly select dental materials in order to initiate changes in the patient's oral hygiene. This product plays a significant role in maintaining oral health. It identifies, measures and assesses the patient's saliva condition, which helps determine the body's possible risk of caries. It is also helpful for testing hydration, salivary consistency, resting saliva pH, stimulated saliva flow, stimulated saliva pH and saliva buffering capacity. The Saliva-Check BUFFER is ideal for use during routine oral examinations.

Test of UNSTIMULATED Saliva (Dr Jeffrey)

Salivary flow (mL/min) Collect saliva during 5 minutes (drooling)

TEST 2 – Saliva consistency
Visually assess the resting salivary consistency in the oral cavity[1].

Sticky frothy saliva residues: Increased viscosity

Frothy bubbly saliva: Increased viscosity

Watery clear saliva: Normal viscosity

TEST 3 – pH measurement
Instruct the patient to expectorate any pooled saliva into the collection cup. Take a pH test strip, place this into the sample of resting saliva for 10 seconds, and then check the colour of the strip. This should be compared with the testing chart available in the package.

5.0 5.2 5.4 5.6 5.8 — Highly acidic

6.0 6.2 6.4 6.6 — Moderately acidic

6.8 7.0 7.2 7.4 7.6 7.8 — Healthy saliva

Resting (unstimulated) saliva

> 3.51 mL (1mL = 1g)
> 5 minutes
Flow = 0.7 mL/min

Test of STIMULATED Saliva (Dr Jeffrey)

II.TESTING OF STIMULATED SALIVA

TEST 4 – Saliva quantity
Instruct the patient to chew the piece of wax to stimulate salivary flow. After 30 seconds, let the patient expectorate into the spittoon. Continue chewing for a further 5 minutes, collecting all the saliva into the collection cup at regular intervals.
The quantity of saliva can be measured by checking the mL markings on the side of the cup.

Quantity of saliva at 5 minutes[2]

< 3.5 mL	Very low	🔴
Between 5.0 – 3.5 mL	Low	🟡
> 5.0 mL	Normal	🟢

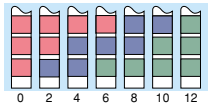
Note: Normal stimulated saliva flow rate may vary between 1mL/min – 1.6mL/min.

TEST 5 – Buffering capacity
a) Remove a Buffer test strip from the foil package and place onto an absorbent tissue with the test side up.
b) Using a pipette, draw sufficient saliva from the collection cup and dispense one drop onto each of the 3 test pads. Immediately turn the strip 90° to soak up excess saliva on the absorbent tissue.This will prevent the excess saliva from swelling on the test pad and possibly affecting the accuracy of the test result.
c) The test pads will begin to change colour immediately and after 2 minutes the final result can be calculated by adding the points according to the final colour of each pad. See conversion table and examples underneath.

Conversion table
Test pad colour at 2 minutes

Green	4 points
Green/Blue	3 points*
Blue	2 points
Red/Blue	1 point *
Red	0 points

Examples



*Where a colour combination provides an unclear result, use intermediate scores.

Interpreting the result.

Combined total	Buffering ability of Saliva	
0-5	Very low	🔴
6-9	Low	🟡
10-12	Normal / High	🟢

Stimulated saliva

> 8.46 mL
> 5 minutes
Flow = 1.7 mL/min

GERD patient

Saliva is not able to neutralize acid pH in foods

Saliva Collection

Minor salivary glands			
Hydration	☐	Low	Greater than 60 seconds
	☐	Normal	Less than 60 seconds
Resting salivary secretion			
Flow (mL/min)	☐	Very Low	Less than 0.1 ml/min
Your flow:	☐	Low	0.1 - 0.25 mL/min
	☐	Normal	Above 0.25 mL/min
Consistency	☐	Sticky, frothy: Increased viscosity	
	☐	Frothy, bubbly: Increased viscosity	
	☐	Watery, clear: Normal viscosity	
pH	☐	5.0 - 5.8	Highly Acidic
Your pH:	☐	6.0 - 6.6	Moderately Acidic
	☐	6.8 - 7.8	Healthy pH
Stimulated salivary secretion			
Flow (mL/min)	☐	Very Low	Less than 0.7 mL/min
Your flow:	☐	Low	0.7 - 1.0 mL/min
	☐	Normal	Above 1.0 mL/min
pH	☐	5.0 - 5.8	Highly Acidic
Your pH:	☐	6.0 - 6.6	Moderately Acidic
	☐	6.8 - 7.8	Healthy pH
Buffer capacity	☐	0 - 5	Very Low
	☐	6 - 9	Low
	☐	10 - 12	Normal/High

Take Home Messages

- Older adults are at risk for coronal and root caries
- *Risk assessment* and *early detection* are key to successful prevention and treatment
- Fluoride: titrate the strength and frequency to the caries risk

Effective daily care and *healthy eating* are critical

Take Home Messages

- Saliva is the reservoir of *calcium* and *phosphate ions*, need to be adequately hydrated for optimal function

- Both are key to remineralization, so *stimulate* saliva if the mouth is dry

- Study in irradiated patients has shown that ACP in toothpaste in combination with a daily NaF rinse is able to prevent 98% of root caries

ADA recommends

#1 High fluoride toothpaste (5,000 ppm)

#2 SDF applications (55,000 ppm)

For prevention and treatment of root surface caries

Assisted living/Nursing home dentistry

May need assistance with tooth brushing
Use of Rx toothpaste and 0.12% Chlorhexidine rinse (rinse can also be used to swab mouth)
Regular cleanings as available
Use of SDF to prevent/arrest decay

The Tokyo Metropolitan Institute of Gerontology Index of Competence

- Instrumental self-maintenance (0-5 points)
  - Can you use public transportation by yourself?
  - Are you able to shop for daily necessities?
  - Are you able to prepare meals by yourself?
  - Are you able to pay bills?
  - Can you handle your own banking?

- Intellectual activity (0-4 points)
  - Are you able to fill out forms for you pension?
  - Do you read newspapers?
  - Do you read books or magazines?
  - Are you interested in news stories or programs dealing with health?

- Social role (0-4 points)
  - Do you visit the homes of friends?
  - Are you sometimes called on for advice?
  - Are you able to visit sick friends?
  - Do you sometimes initiate conversations with young people?

Total points possible: 13

Source: Moriya et al. (2013)

The Tokyo Metropolitan Institute of Gerontology Index of Competence

- Instrumental self-maintenance (0-5 points)
  - Can you use public transportation by yourself?
  - Are you able to shop for daily necessities?
  - Are you able to prepare meals by yourself?
  - Are you able to pay bills?
  - Can you handle your own banking?

- Intellectual activity (0-4 points)
  - Are you able to fill out forms for you pension?
  - Do you read newspapers?
  - Do you read books or magazines?
  - Are you interested in news stories or programs dealing with health?

- Social role (0-4 points)
  - Do you visit the homes of friends?
  - Are you sometimes called on for advice?
  - Are you able to visit sick friends?
  - Do you sometimes initiate conversations with young people?

Total points possible: 13

An overall score of 11 points or less OR an intellectual activity score of 3 or less was significantly related to poor oral health behaviors:

1. Lack of regular visits to a dentist

2. Not using extra cleaning devices

Source: Moriya et al. (2013)

Aspiration Pneumonia

- Plaque ***accumulation*** may be due to:
  - Stroke - Less control of muscular activity/Less muscular activity (Facial muscles)
  - Difficulty swallowing (Dysphagia)
  - Loss of sensitivity (Sensory neuropathy)
  - Unable to brush teeth (Inability to perform ADL)

- Association between poor oral hygiene and respiratory disease, such as aspiration pneumonia

- Aspiration pneumonia occur when oropharyngeal secretions are directed into the trachea and subsequently into the lungs. Results in either bi- or unilateral pneumonia.

Aspiration Pneumonia is the leading cause of death in Nursing home residents.
10% of deaths may be prevented by increased oral hygiene

Learning to Speak Alzheimer's

Make customized dental treatment plan

Increasingly more difficult to treat in a dental chair

Early

- Not remembering appointments
- Not recognizing familiar faces
- Losing track of time
- Not storing recent information
- Getting lost
- Having difficulties finding words
- Misplacing needed items

Middle Early

- Being unable to make decisions
- Finding it hard to concentrate
- Acting paranoid
- Being unable to separate fact from fiction
- Being unable to translate thoughts into actions
- Misunderstanding what is being said
- Making mistakes in judgment

Late Early

- Withdrawing, being frustrated and/or angry
- Losing ability to sequence tasks
- Speaking in rambling sentences
- Misusing familiar words
- Having difficulty writing
- **Requiring supervision for ADL**
- Reacting less quickly

Early Middle

- Loosing fine motor skills (buttoning a shirt)
- **Not recognizing objects for what they are**
- **Being unable to understand written words**

Middle Middle

- Repetitious speech and action
- Having hallucinations and delusions
- Altered visual perception
- Frequent changes of emotions
- Minimal attention span
- Overreacting, having outbursts
- **Assistance with all ADL**

Late Middle

- Incontinent
- Unable to separate or recognize sounds

Late or Final

- Losing all language
- Losing gross motor skills (sitting, walking)
- Having swallowing difficulties
- Needing total care

Lisa (F76)

- S: Lisa and her husband David presents for a problem-focused exam. *A previous dentist has recommended full mouth extraction*. L has fractured restorations, but L seems not to be in obvious pain. Last cleaning 3 yrs ago.

- O: Medical
  - Diabetes
  - BP well controlled
  - AD was diagnosed in late 2005, about 10 yrs ago. *Advanced AD: non-responsive, non-verbal*
  - Drug allergy: Sulfa, Opiates/Codeine

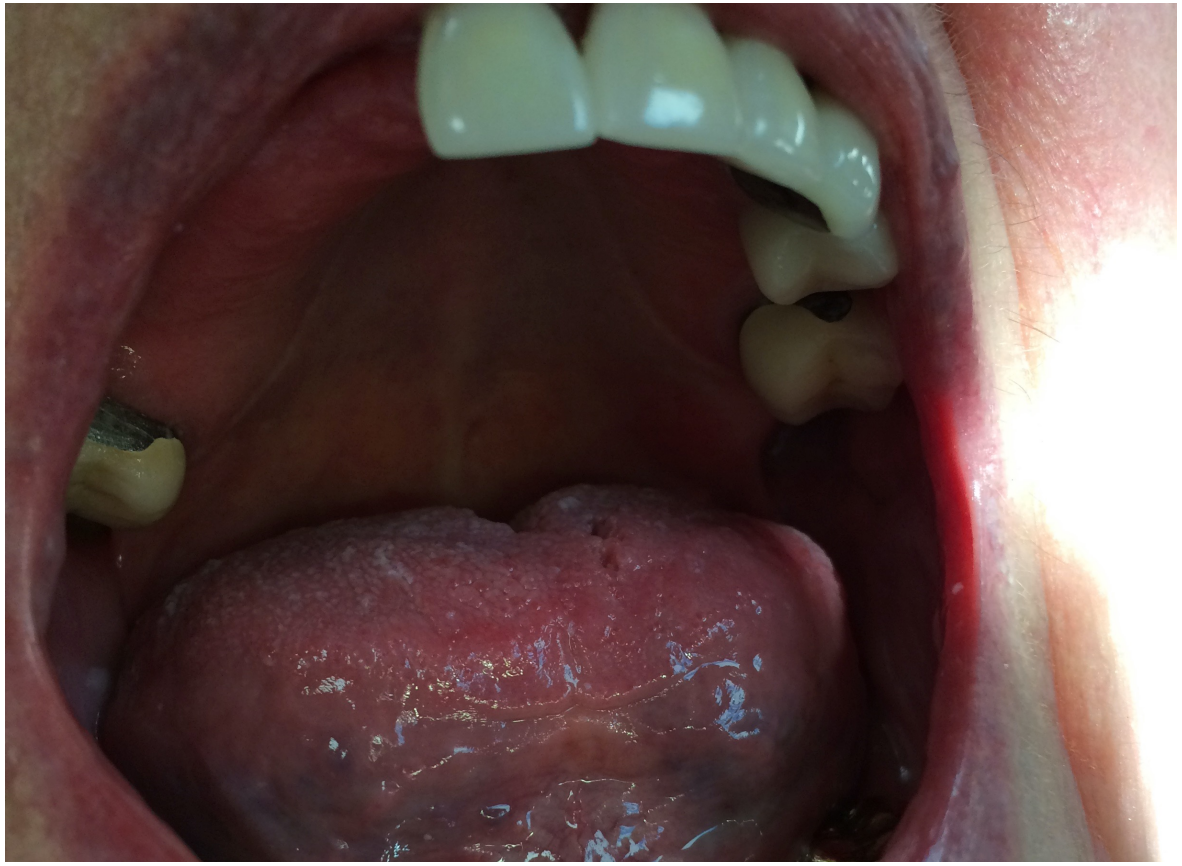
Lisa (F76)

- P: Limited exam, problem-focused. I was able to open L's mouth and to brush her teeth with 0.12% Chx without any difficulties. She has been to the dentist frequently in the past, and her motor reflexes are still intact. She reacts well to movements in her mouth, and opening reflexes are functioning.
- Discussed the need for extractions with her husband. A full mouth extraction at this point seems to be doing more harm than good. L is still eating and chewing, and *a full mouth extraction would put her into a situation that she has not known in the past, which would not serve her well in terms of reflexes and cooping with the extractions*. I could not notice that any probing that I did was painful for her.
- NV: Regular cleanings with Dr. Jeffrey
- Rx: 0.12% Chx solution for antimicrobial cleaning of gums and teeth 1-2x daily.

Epilogue: Lisa passed away 2 months after her visit in my dental office.

Denture / Crown and Bridge / Implant

Resin partial denture with good esthetics

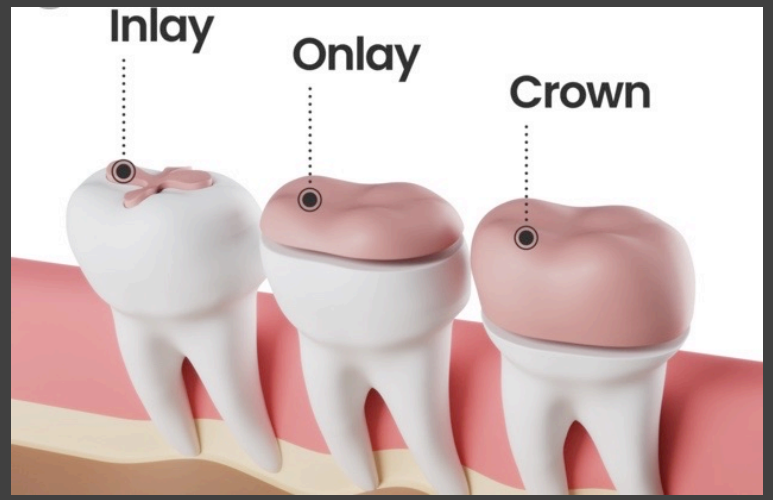


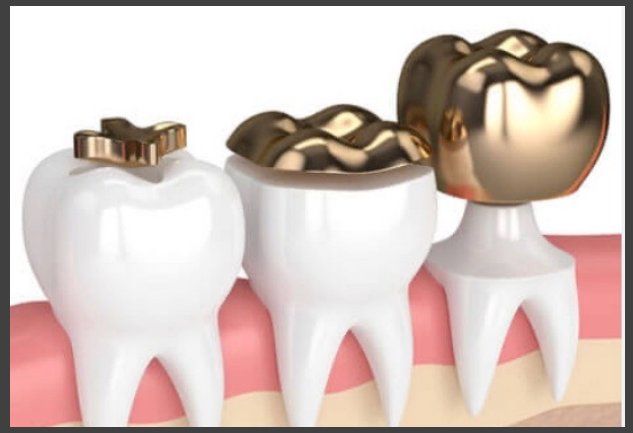
Extract or Keep?

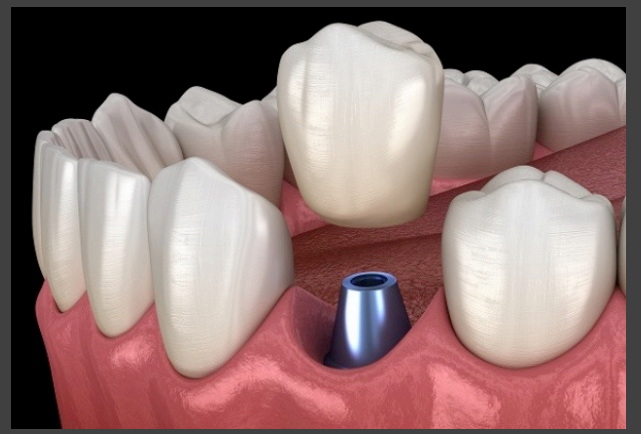
Women loose more bone mass then men as we age, and this loss also affects the height of the bone in the oral cavity.

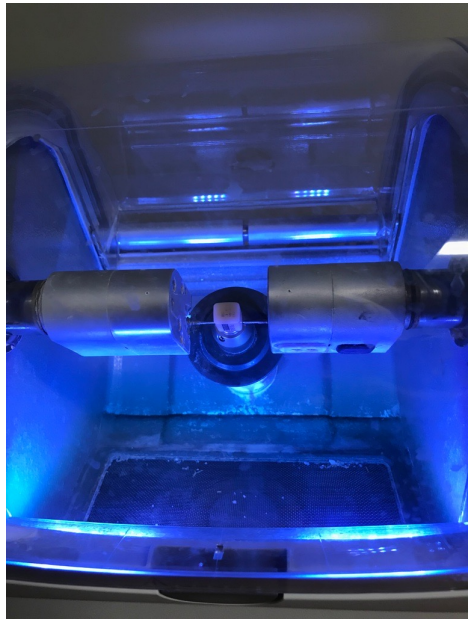
For this patient I did an upper complete denture, but she had a very low ridge in her lower jaw, so we kept a good canine to support her lower denture.

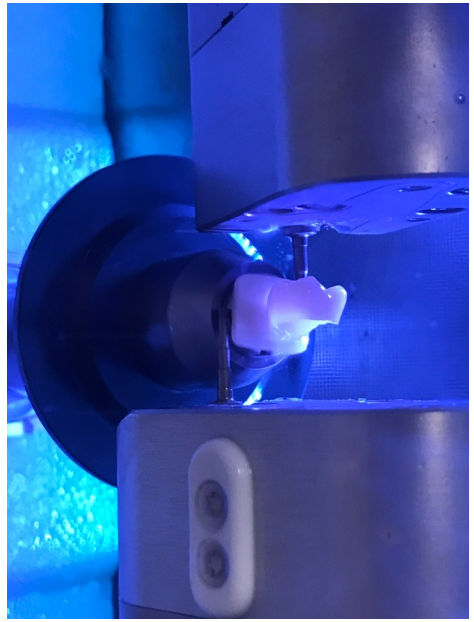
In order to support a good occlusion, you do not need to always reduce for a full coverage crown.
Sometimes an *Inlay* or an *Onlay* is enough to uphold the chewing forces.





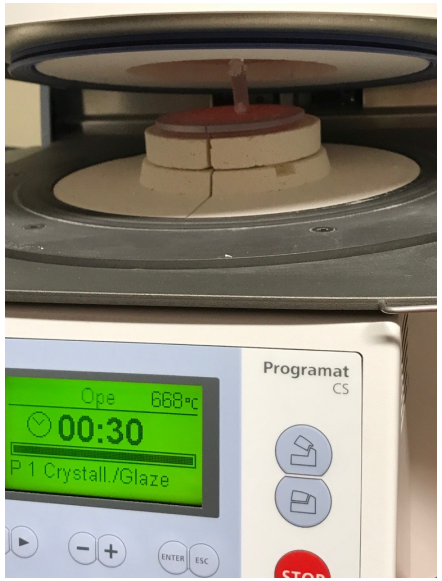


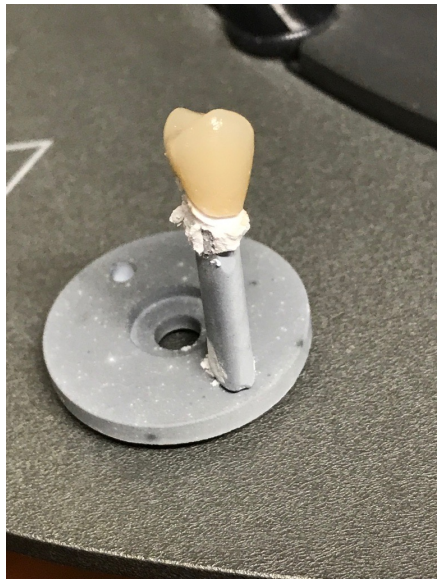




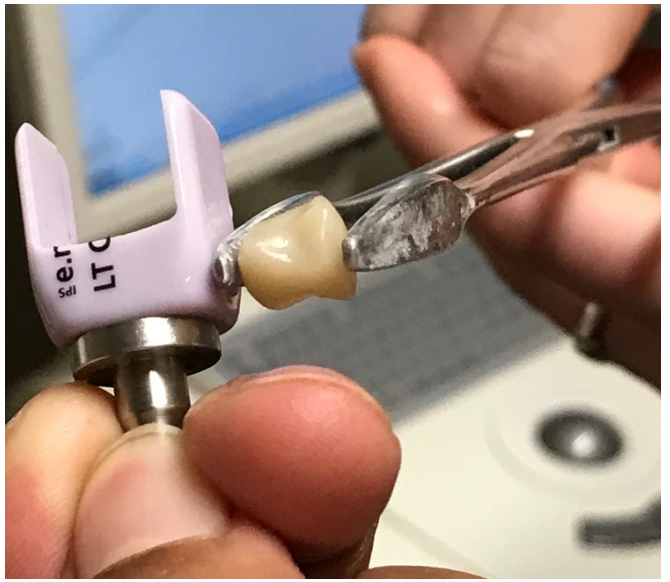
Making of a ceramic crown

3D printing





Ceramic crown



- *Gold crowns*
  - Minimal tooth reduction
  - Still hand-made
- *Porcelain or Ceramic crowns*
  - Most esthetic
  - Zirconia has enough strength for 3-unit bridges
- *Porcelain fused to metal – PFM*
  - Requires the most tooth reduction
  - Strength for longer bridges
  - Crowns supporting dentures (metal frame-work dentures)

Courtesy of Ocean Breeze Prosthodontics

To sum it up

- Substitute glucose with Xylitol (especially when you snack)
- Keep your blood pressure controlled
  - 160/100 for routine dental care
  - 180/110 for emergency care
- Keep your diabetes controlled, if possible by diet
  - A1c at 7%
- Eat a fiber-rich diet
- Stay hydrated
- Your medications affect the quality and amount of your saliva secretion, and ultimately your teeth (enamel and dentin)

You were most interested in hearing about... ☺

Preventive oral care
What to look for in a provider
Dentures/bridges/implants

Dental materials
Assisted living/Nursing home dentistry
Orthodontics
Chronic disease
Diet
Aesthetic dentistry

Medications
Missing teeth
UW SoD and its different clinics

Clinics at the UW School of Dentistry

- Health Science Building, B and D-wings (2nd, 3rd, 4th floors)
  - Treatment time, charges and complexity of care differ between the clinics

- Student Dentist clinics with Attending Dentists
- Graduate student clinics (Licensed dentists training for a specialty)
- Faculty Practice
  - *Faculty Practice - call for appointments: 206-685-8258*

Any Questions?

- Feel free to e-mail me at

  sjeffrey@uw.edu