

Start Saying
"I work in the best office ever!"
 & your dentist saying
"I have the best hygienist ever!"



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2017 ANNUAL SESSION
 Michigan Dental Association
 2010 ADA ADULT PREVENTIVE CARE PRACTICE OF THE YEAR

2017 ANNUAL SESSION
 Michigan Dental Association

WIFI PASSWORD

Login: MDA2017
 Password: Annual

Disclaimer PennWell P&G

Tufts GC AMERICA INC
 School of Dental Medicine

3M



Course Objectives

- * Improve practice profitability through communication, caries management and new technology, aiding and treatment planning and strategic scheduling
- * Understand that caries management programs do not have to be complicated and time-consuming
- * Identify dental and restorative materials and techniques that offer favorable long-term outcomes
- * Rejuvenate your career!

Prosthodontics & Prevention

Older patient population
 Complex MH, Medications
 Caries risk assessment
 Diagnosis and treatment planning
 Many restorative procedures increase caries risk
 Favorable and predictable outcomes

CARIES

Caries is the most prevalent disease in the world

Surgeon General: dental caries is the single most common chronic disease of childhood

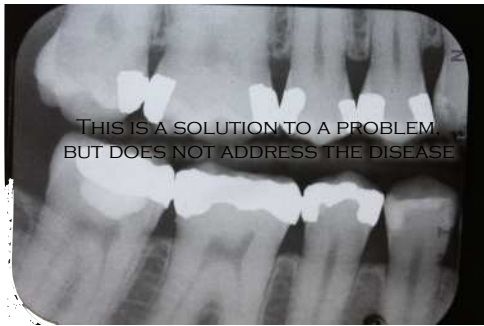
Starting at age 60, tooth decay rates are equal to or greater than adolescent decay rates who grew up with no fluoride in the water

91% of adults are affected by caries in their lifetime

World Health Organization 2010
Healthy People 2010 Surgeon General Report
Duggan R. Oral health and the aging population. J Am Dent Assoc 2007; 138(7): 94-95
Behav Agalix ED Baker UK, Caris PT et al Centers for Disease Control and Prevention. Surveillance for dental caries, dental sealers, tooth retention, edentulism and enamel fluorosis. United States, 1988-94 and 1999-2002. JAMA 2003; 289(17): 2244-52

COMMON CARIES MISCONCEPTIONS

- Children and adolescents are at the highest risk for developing caries and caries risk reduces with age.
Just the opposite!
- If you brush and floss your teeth, you will not be as susceptible to caries.
False!
- High amounts of topical fluoride will minimize risk.
Sometimes!
- If incipient caries are detected, the least invasive thing to do is to watch it.
NEVER!



THE DISEASE: *Dental Caries*

Bacteria pH Inadequate exchange of minerals

Not a hole in a tooth!

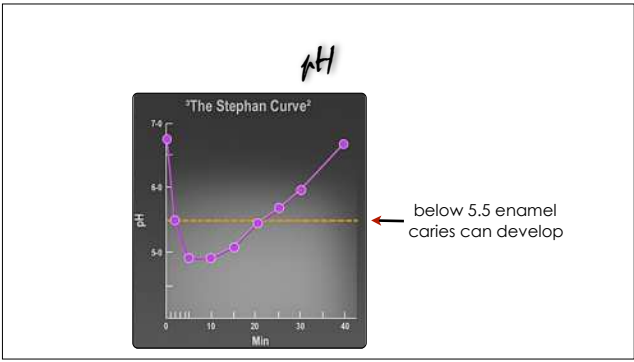
Bacteria

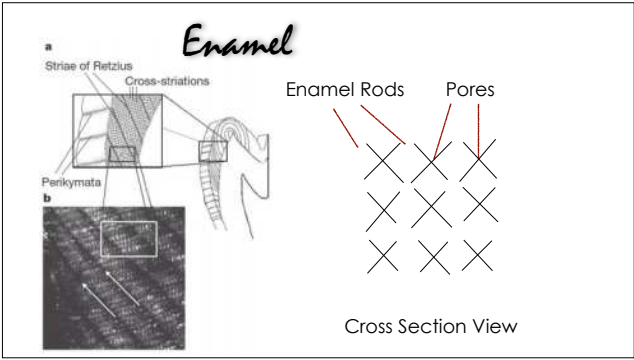
- S. mutans
- S. sobrinus
- Lactobacillus
- other bacteria



- Sticks to tooth
- Converts sucrose to glucan
- Lactic acid byproduct

Acidogenic, Aciduric, Cariogenic





Demineralization

- Constant cycle of acids formed by bacteria on teeth
- Acids remove minerals from teeth faster than the saliva can restore the minerals
- Without chemotherapeutics and risk management, demineralization will lead to caries

Demineralized Enamel

Enamel rods become ragged
Widening of inter-rod space

Fluid Diffusion Occurs

- Plaque acids
- Bacteria
- Calcium
- Phosphate
- Fluoride
- Buffering agents

DENTAL CARIES
Impact on a Patient's Quality of Life

- ✓ Diminished comfort, function, aesthetics and perception of oral health
- ✓ Increased anxiety
- ✓ Increased cost
- ✓ Direct link to systemic conditions

DENTAL CARIES

Impact on a Clinician's Quality of Life

- ✓ Increased anxiety
- ✓ Delivering "bad news"
- ✓ Lack of control of disease process
- ✓ Reduced lifespan of restorations

So, we can't see the disease, but
we need to identify it before it
destroys teeth?!



CAMBRA

Caries Management by Risk Assessment



Evidence Based
Caries can be
prevented and cured
Risk Assessment
Risk Management
ADA adopted
protocols



CAMBRA

(CARIES MANAGEMENT BY RISK ASSESSMENT)
Journal of the California Dental Association, Oct & Nov 2007

Why would I consider a
Caries Management
Program for my Practice?

Clinical Benefits
Financial Rewards

"Although we have reached a relatively high degree of excellence in restoring teeth, placing high-quality restorations in teeth that should not have been surgically cut and restored represents the lowest overall standard of care."

Ismail, S. Dental Caries in the Second Millennium. J Dent Ed. Oct 2011

RECORD REVIEW

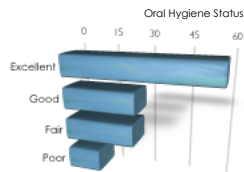


Maraglano-Muniz, PM, Roberts, DR, Chapman, RJ. Trends in Dental Hygiene: Clinical Results and Profitability of a Caries-Management Program in Private Practice. RDH Magazine, Dec. 2012.

- 132 Patients
- Demographic Information
- # of new carious lesions
- # of reversal of incipient lesions
- Oral Hygiene Status
- Risk Category

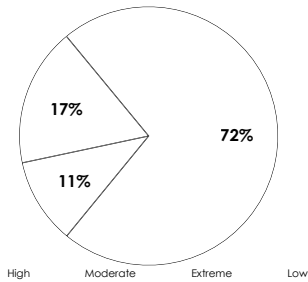
RESULTS

- n=132 (62 Male, 70 Female)
- Mean age: 63 years old
- 254 new carious lesions (49 people)
- 215 lesions reversed
- 102 accepted CAMBRA

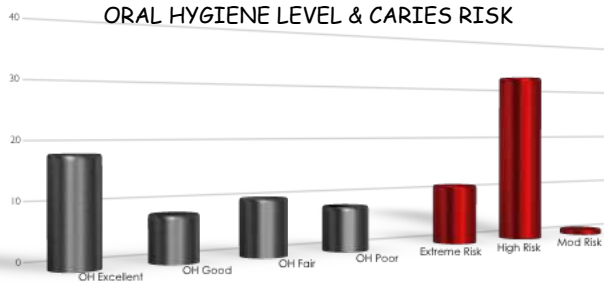


93.87% Patients with new carious lesions accepted CAMBRA protocols

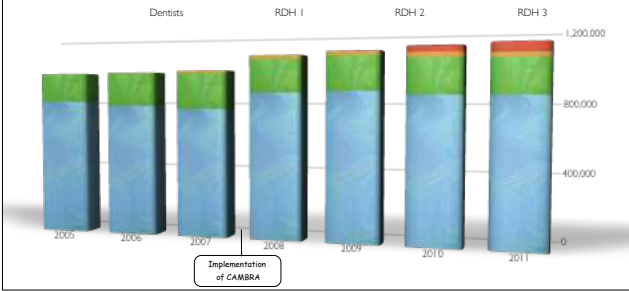
CARIES RISK CLASSIFICATIONS



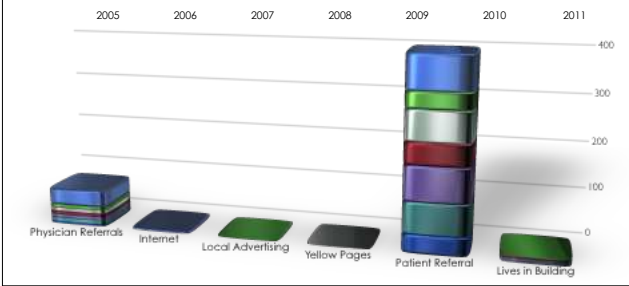
DISTRIBUTION OF PATIENTS WITH INCIPIENT CARIES REVERSALS (N=44) ORAL HYGIENE LEVEL & CARIES RISK



OFFICE PRODUCTION



PATIENT REFERRALS



ADDITIONAL FINDINGS



Improved Periodontal Condition

Less Bleeding
Less Inflammation



ADDITIONAL FINDINGS

Decrease in Calculus & Stain

- Improved patient satisfaction and comfort
- Increased time for communication and clinical evaluations
- Decrease in scaling time
- Decrease in scaling-related fatigue

ADDITIONAL FINDINGS

Smooth, Shiny, Glass-like Root Surfaces



Maragliano-Muniz, Jan 2012

ADDITIONAL FINDINGS

Tooth & Root Sensitivity Minimized

A better alternative to sensitivity protection dental products?

Future research:

- Comparison of products
- Caries prevention/sensitivity reduction after perio surgery
- Effects of CAMBRA products on biofilm

HOW DO I GET STARTED?



Assessing Caries Risk & Understanding Risk Factors

A BALANCED MOUTH IS A HEALTHY MOUTH

- Oral bacteria
- Neutral pH
- Adequate mineral exchange

AN UNBALANCED MOUTH = DISEASE

Presence of risk factors contribute to disease

- Bacterial imbalance
- Acidic oral environment
- Reduced calcium & phosphate concentrations

Featherstone et al. 2007 Caries Risk Assessment- The Caries Imbalance

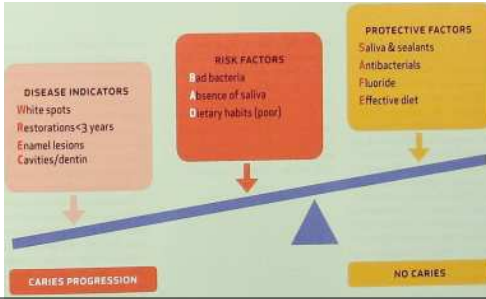


Table 1
Caries Management by Risk Assessment (CAMBRA)
Clinical Guidelines for Patients 6 years and Older

| Risk Level | Frequency of Radiographs | Frequency of Caries Recall Exams | Restorations (Dental Work & Barriers/Closures) | Antibacterials (Chlorhexidine, Ag Film) | Fluorides | pH Control | Caries Prevention (Sealants, Superglues) | Diagnosis (Early-Stage or Delayed) |
|---------------|--------------------------|----------------------------------|--|---|-------------------|-------------------|--|------------------------------------|
| Low Risk | None | None to 12 months | None to 12 months | None to 12 months | None to 12 months | None to 12 months | None to 12 months | None to 12 months |
| Moderate Risk | None to 12 months | None to 12 months | None to 12 months | None to 12 months | None to 12 months | None to 12 months | None to 12 months | None to 12 months |
| High Risk | None to 12 months | None to 12 months | None to 12 months | None to 12 months | None to 12 months | None to 12 months | None to 12 months | None to 12 months |
| Extreme Risk | None to 12 months | None to 12 months | None to 12 months | None to 12 months | None to 12 months | None to 12 months | None to 12 months | None to 12 months |

CARIES RISK FACTORS



Compendium, Oct 2013

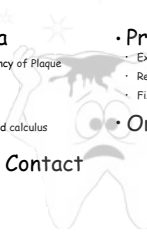
- Gingival Recession
- Deep Pits & Fissures
- Diet High in Sugar/Carbs/Acids
- Poor Oral Hygiene
- Growing up without access to fluoride
- 60+ years of age

These risk factors contribute to caries risk, but are not high risk factors

CARIES HIGH RISK FACTORS

Bacterial Influence

- Xerostomia
 - Changes in consistency of Plaque
- Smoking
 - Increased plaque and calculus
- Infectious Contact
- Prosthodontics
 - Extensive Restorations
 - Removable Partial Dentures
 - Fixed Partial Dentures
- Orthodontics



CARIES HIGH RISK FACTORS

pH Influence

- Xerostomia
 - Longer rebound to neutral pH after eating
- Recreational Drug Use
 - Methamphetamines
 - Marijuana
- Smoking



CARIES HIGH RISK FACTORS

reduced concentration of minerals

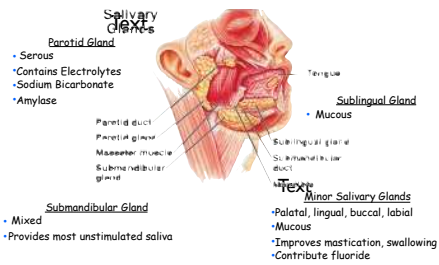


- Xerostomia
 - Lack of Calcium, Phosphate and Fluoride
- Caries within 3 years
 - High likelihood of recurrence
 - Best predictor for future disease
- Incipient Caries/ Demineralization
 - Tooth structure has loss of minerals

Saliva

how it works and why we need it

SALIVARY GLANDS



Saliva

- Important for homeostasis
- 5 Protective Functions:
 1. Lubrication
 2. Flushing/Rinsing
 3. Chemical
 4. Antimicrobial
 5. Maintenance of supersaturation of calcium & phosphate ions
- Varies throughout day
 - Time of day
 - Postural

Components of Saliva

1. Mucins/ Glycoproteins
2. Phosphoproteins
3. Immunoglobulins
4. Amylase and other enzymes

Enzymes

PEROXIDASE

- Reacts with saliva- forms
- HYPOTHIOCYANATE**- inhibits the ability of bacteria to fully use glucose

LACTOPEROXIDASE

- Component of acquired pellicle
- Adheres to hydroxyapatite
- Influences qualitative and quantitative characteristics of bacteria within dental plaque

Proteins

HISTADINE & STATHERIN

- ✓ Control the status of Calcium & Phosphate
- ✓ Maintain levels of supersaturation of calcium & phosphate in relation to hydroxyapatite
- ✓ Prevent a rapid drop in pH, aid in quicker pH recovery
- ✓ Bacteriostatic

The lack of saliva effects:

- Mastication & Deglutition**
- Digestion**
- Immunity**
- Oral Homeostasis**
- Buffering Capacity (control of oral pH)**
- Oral Microflora**
- Concentration of Calcium & Phosphate**
- Salivary Proteins Essential for Mineral Balance**

Xerostomia

contributing to caries risk

XEROSTOMIA

Over 400 Medications

- Antihypertensives
- Antidepressants
- Anxiety
- Antihistamines
- Decongestants
- Acid Reflux
- Sedatives
- Pain Meds
- ADHD
- Chemotherapy



XEROSTOMIA

Systemic Conditions

- SYSTEMIC LUPUS
- RHEUMATOID ARTHRITIS
- HYPERTENSION
- ENDOCRINE DISORDERS
- BELLS Palsy
- SARCOIDOSIS
- DIABETES
- SCLERODERMA
- HIV
- SJOGREN'S SYNDROME
- DEHYDRATION
- ANXIETY

EVALUATING XEROSTOMIA

"Do your mouth sugars?"

CLINICAL SIGNS OF XEROSTOMIA



Thick Plaque

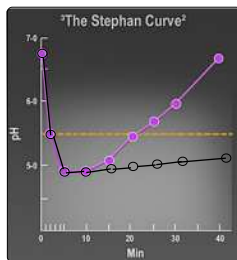


Stringy Saliva



Bubbly or Frothy Saliva

ROLE OF PH



Healthy Salivary Flow

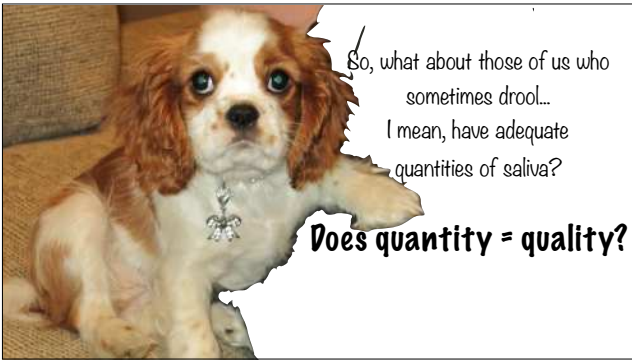
Reduced Salivary Flow

SMOKING *Contributing to Caries Risk*

Smoking...



- is a risk factor
- weakens the oral mucosa
- promotes the proliferation of cariogenic bacteria
- suppression of serum ascorbic acid levels (Heng 2006, Citraus 2001, Vasarainen 1994)
- positive correlation of pack years and DMFT (Heng 2006, Hirsch 1991)



XEROSTOMIA

Reduced Concentration of Salivary Minerals

- Calcium
- Phosphate
- Fluoride
- Buffering Agents
- Immunoglobulins
- Digestive Enzymes

Salivary Testing

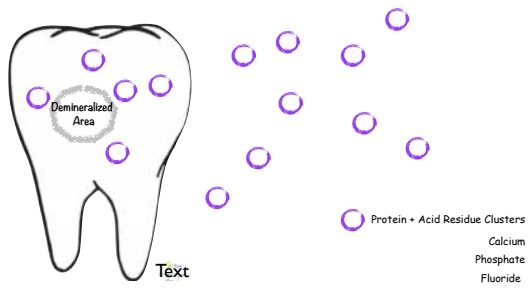
- **pH Testing**
 - Saliva Check Buffer- GC America
 - CRT Buffer- Ivoclar
- **Bacterial Testing**
 - Saliva Check Mutans- GC America
 - CRT Bacteria- Ivoclar
 - Cari-cult- Oral Biotech
 - Dentocult SM- Orion Diagnostics
- **ATPase Testing**
 - Cariscreen- Carifree

CHEMISTRY OF MINERAL UPTAKE

- Diffusion
- Teeth made of hydroxyapatite, fluorapatite, calcium, phosphate
- Constant cycle of demin-remin
- If minerals out = minerals in: no net change to tooth
- Rate limiting factor is the **available calcium & phosphate**

DEMINERALIZATION

REMINERALIZATION



CARIES WITHIN 3 YEARS & INCIPIENT CARIES *"Are we watching or waiting?"*

"WATCH" AREAS



What are we watching?
WATCH #19-0
How soon is it?
What are we waiting for?

ORTHODONTICS

FIXED ORTHODONTICS

- Difficult to clean
- Demineralization common around brackets/bands
- White spot lesion prevalence 2-97%



"INVISIBLE BRACES"



Bonding of attachments

Oral hygiene must be optimal

Can impede natural passage of minerals

Plaque accumulates on internal surface of aligners

Decalcification of cusp tips, incisal edges common

Mashiri et al. Consequences of Poor Oral Hygiene During Clear Aligner Therapy. August 2013.

PROSTHETIC DENTISTRY

Fixed Partial Dentures

• Avg. lifespan: 7-10 years, 87% at 10 years, 66% at 15 years

Scuria, 1998

• The greater the span, the greater the risk of failure

• Dental Caries: most common mode of failure

Goodacre, 2004, Tan 2004



Extensively Restored Teeth

10+ Restored Surfaces

• How did we get here?

• Lifespan of restorations: 7-15 years

• Common mode of failure: secondary caries around margins



Labwork: Mr. Junge Endo, MDT

Removable Partial Dentures

• Surgeon General: By age 50, Americans have lost an average of 12.1 teeth

• Avg. lifespan: 74% success rate at 5 years

• Dental Caries: Most common mode of failure



Kapur, 1989

INFECTIOUS CONTACT
Contributing to Caries Risk

- Significant others**
- Parent to child**
- Primary caregiver to child**
- Child to child**

RECREATIONAL DRUGS
Contributing to Caries Risk

Methamphetamines

"Meth Mouth": severe decay, tooth loss, fracture, erosion

- Causes drug-induced xerostomia
- bruxism
- poor nutrition
- poor oral hygiene



Most severe when injected

Hussein, 2012



Marijuana

Active ingredient: 9-tetrahydrocannabinol (THC)

Therapeutic Uses:

Appetite stimulant, Pain relief, Relief of glaucoma and neurological illnesses (epilepsy, migraines, bipolar disorder)

Affects cardiovascular, respiratory, immune systems

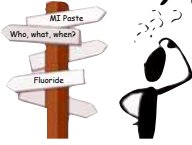
Directly affects cell activity by suppressing: macrophages, natural killer cells, T & B lymphocytes

Oral Side Effects:

- Reduced resistance to bacterial and viral infections
- Chronic Inflammation of oral mucosa
- Xerostomia
- Leukoedema
- Gingival changes: gingivitis, hyperplasia
- Uvulitis
- Carcinoma of the tongue
- Increased risk for periodontal disease
- Increased risk for caries

Versteeg et al. 2008

How do I implement Caries Management in my practice?



KEYS FOR SUCCESSFUL IMPLEMENTATION

- ✓ Easy
- ✓ Efficient
- ✓ Economical
- ✓ Effective

WHY THE HYGIENIST?

- Regularly scheduled appointments
- Direct patient contact
- 45-60 minute appointments
- Establishes rapport & trust
- Provides clinical assessments
- Provides risk management instructions

CARIES RISK ASSESSMENT



Documentation

Additional Considerations

- Oral Health Related Quality of Life
- Caries Management

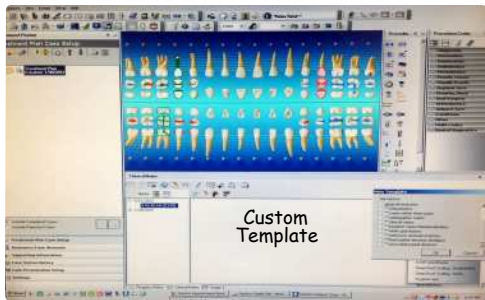
COMFORT "Is everything comfortable in your mouth?"

FUNCTION "Are you chewing, speaking, swallowing properly?
Have you noticed anything in your mouth works?"

AESTHETICS "Are you happy with how your mouth looks?"

PERCEPTION OF HEALTH "Do you think your mouth is healthy?"

DOCUMENTATION



CARIES RISK CATEGORIES

Low
Moderate
High
Extreme High

CDT CODES

Caries risk assessment & documentation with a finding of:

- D0601: low risk
- D0602: moderate risk
- D0603: high risk
- D0604: extreme risk
- D0999: unspecified diagnostic procedure, by report

CARIES RISK REDUCTION

3 Principles for Caries Risk Reduction

1. Reduce bacterial levels/ disrupt bacterial colonies
2. Neutralize pH
3. Facilitate mineral exchange

Low Risk Patient

- Absence of all high risk factors
- No to few restorations
- Shallow occlusal anatomy
- No gingival recession
- Favorable diet

Risk Management for the Low Caries Risk Patient



- Patient handouts
- Oral hygiene instructions
- Diet assessment
- Fluoride varnish
- Xylitol
- 6 month recall



What is your patient doing at home?



"But I brush three times, floss twice
AND use those little brushes you gave me..."

SMART TOOTHBRUSHES



www.beamtoothbrush.com

Insurance Company, NOT a toothbrush company

Increased reimbursement or reduced rates for compliant groups

Kolibree TOOTHBRUSH APP MEET THE TEAM GET IN TOUCH PRESS BLOG [SIGN UP](#)

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ORAL-B BLUETOOTH CONNECTED TOOTHBRUSH



<http://www.engadget.com/2014/02/25/oral-b-bluetoothbrush-smartseries-7000-hands-on/>
www.connectedtoothbrush.com


Oral-B Genius



New Genius Technology
Position detection
Coaching technology

ORAL HYGIENE INSTRUCTIONS
PATIENT MOTIVATOR

Dark Purple: 48+ hours old
Pink: <48 hours old
Light Blue: Acidogenic Plaque





GC TRI PLAQUE ID GEL
Directions for Use

Oil Pulling

Sesame Oil, Partially-Digested Coconut Oil, Sunflower Oil, Tea Tree Oil

Detoxifying= Ama in Ayurvedic Medicine

MOA Unknown

- Creates surface layer that prevent bacterial adhesion
- Reduces plaque bacteria
- Increases salivary flow
- Prolonged, forceful rinsing dislodges food particles
- Moisturizes gums

Oil Pulling drawbacks*

Oil Pulling

There have been reports in the mainstream media on "oil pulling" and its benefits for dental and general health. The claims state that oil pulling—swishing oil in the mouth—whitens teeth, and improves dental health and overall health.



1. This is NOT a substitute for your dentist
2. It takes longer than conventional rinsing
3. There is one case of inhalation of oil
4. Coconut oil could trigger contact dermatitis
5. Coconut oil: spit into the garbage

*according to medical professionals

<http://www.ada.org/en/Home-MouthHealthy/az-topics/o/oil-pulling>

Don't use tobacco.

Xylitol

It works!



No it doesn't!!

100% XYLITOL

Bacteriostatic
Interferes with adherence & metabolism of s. mutans



Does Spry make Doggie Treats?



6-10g for highest risk
>14g Potential Side Effect GI Upset



Harmful to Pets
Especially Dogs

OTC XYLITOL ALTERNATIVES

Therapeutic Use:
Chew for 3-5 Minutes



Morgan, J Dent Res 2006

FLUORIDE VARNISH

WHAT IS FLUORIDE VARNISH?

- Highly concentrated form of fluoride which is applied to the tooth's surface by a dental professional as a form of topical fluoride therapy
- Due to its adherent nature, stays on the surface of the tooth for several hours
- Can be applied to the enamel, dentin or cementum
- Its been used in Western Europe, Canada and the Scandinavian countries since the 1980's for tooth decay prevention
- Many studies report it's efficacy for the prevention of tooth decay or remineralization of early carious lesions
- In the USA, it is widely used as an *anti-hypersensitivity* agent

...but, I thought fluoride varnish was used for preventing caries?

FOOD AND DRUG ASSOCIATION

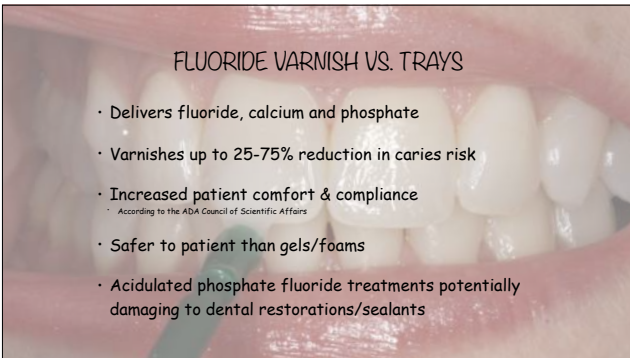
Fluoride varnish is considered an FDA-approved device to occlude tubules and therefore aid in anti-hypersensitivity

For a varnish to be considered to be listed as an anti-caries material, it would have to be approved by the FDA as a drug

FLUORIDE VARNISH VS. TRAYS

- Delivers fluoride, calcium and phosphate
- Varnishes up to 25-75% reduction in caries risk
- Increased patient comfort & compliance
- Safer to patient than gels/foams
- Acidulated phosphate fluoride treatments potentially damaging to dental restorations/sealants

* According to the ADA Council of Scientific Affairs



There are so many varnishes on the market. How do I pick one?

PATIENT COMPLIANCE

- KEYS TO IMPROVING PATIENT COMPLIANCE
- QUICK APPLICATION
- EFFECTIVE MATERIALS
- AESTHETIC OUTCOME
- EXCELLENT TASTE



MI VARNISH

FLUORIDE + CALCIUM + PHOSPHATE + CASEIN PROTEIN
(ACP-CPP)



MI VARNISH APPLICATION



Instruct patients to expectorate-
DO NOT SUCTION AFTER VARNISH APPLICATION

SILVER DIAMINE FLUORIDE



Elevate Oral Care

38% Silver Diamine Fluoride

FDA Approved for Dentinal Hypersensitivity by blocking dentinal tubules

Hardens dentin

Strong bactericidal and MMP reduction= Anti-Caries!

<http://www.dentistryiq.com/articles/2016/07/the-dos-and-don-ts-of-silver-diamine-fluoride.html>

SILVER DIAMINE FLUORIDE



SILVER DIAMINE FLUORIDE



Silver Diamine Fluoride



Risk Assessment

- | | |
|-----------------------------------|------------------------|
| Xerostomia | Orthodontics |
| Caries within 3 years | Prosthetic treatment |
| Incipient caries/demin | Extensive restorations |
| Gingival recession | 60+ years old |
| Recreational drug use | Smoking |
| ? Diet high in sugar/carbs/acid | Infectious contact |
| Poor plaque control | Deep pits/fissures |
| Growing up without F ₂ | Acidic environment |

Risk Management Recommendations

Low Caries Risk

- Oral hygiene instructions
OTC Products, ACT Fluoride Rinse
- Diet Counseling
Caution with sugar, sipping coffee over long periods of time
- Fluoride varnish

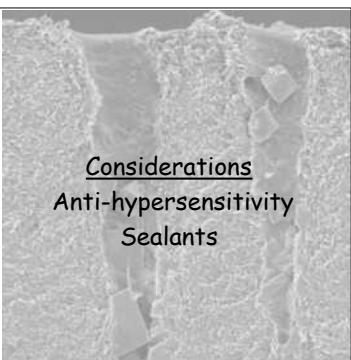
MODERATE CARIES RISK



- Good oral hygiene
- Favorable diet
- Shallow to deep occlusal anatomy
- Few restorations
- Gingival recession
- No high risk factors

Risk Reduction Moderate Risk

- Patient handouts
- Oral hygiene instructions
- Diet assessment
- Fluoride varnish
- Xylitol
- 6 month recalls



Considerations Anti-hypersensitivity Sealants

IN-OFFICE ANTIHYPERSENSITIVITY



GOAL: OCCLUDE DENTINAL TUBULES

TAKE HOME ANTI-HYPERSENSITIVITY



900 ppm Fluoride No Fluoride

MI PASTE



ACP-CPP (Recaldent)
Casein: Milk-based Protein
MI Paste Plus 900ppm NaF
Safe with Lactose Intolerance,
Pregnant Patients, Children
Contraindicated with Milk Allergy

Caution:
Kidney Dialysis
Kidney Stones



MILK ALLERGY

- ✓ Most common food allergy in early childhood
- ✓ 2-3% of infants and young children
- ✓ 85-90% of these children lose clinical reactivity to milk by age 3
- ✓ Prevalence in adults is 0.1-0.5%



1. www.allergy.com
2. Huff AJ, Donahue J. (2002) Prevalence of cow's milk allergy in childhood. *Ann Allergy Asthma Immunol*. 89(4 Suppl): S5-S7
3. Orskov, R.R., Swann, L.E. (2005) 'Cow's milk allergy: A complex disorder'. *Journal of the American College of Nutrition* 24(4 Suppl): 552S-558S
4. The Dairy Council. www.dairy.com



MI PASTE APPLICATION



SEALANTS
for the moderate to high risk patient

RESIN VS. GLASS IONOMER SEALANTS

GLASS IONOMER SEALANTS

- ✓ Similar retention rates as resin-based sealants
- ✓ Fewer caries
- ✓ Better marginal integrity
- ✓ Improved ability to reach the depth of fissure

Simmons RJ. Retention and effectiveness of dental sealant after 15 years. *JADA*. 1991; 122(10): 34-42.
 Oeng EM, Griffin SO, Kohn WC, Gooch BF, Cauffman RW. The effect of dental sealants on bacterial levels in carious lesions: A review of the evidence. *JADA*. 2008; 139(3): 271-278.
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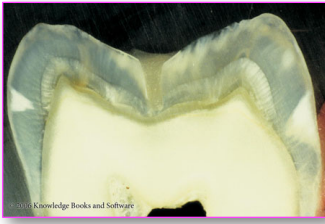
FUJI TRIAGE SEALANTS

- Glass ionomer
- Works in a moist field
- No isolation required
- No bonding agent required
- Self bonding (chemical bond) with its high fluoride release
- Safe to seal over immature enamel or non-cavitated lesions

FUJI TRIAGE SEALANTS

- Glass ionomer sealant allows Fluoride, Calcium and Phosphate to pass through the sealant to help mature the newly erupted tooth
- Resin sealants create a barrier and Fluoride, Calcium and Phosphate cannot penetrate through the sealant
- Contains 1400ppm Fluoride- releases over 400 days
- "rechargeable" with fluoride tx
- 1 capsule seals one arch

Cross Sectional View
Glass Ionomer Reaching the Depth of the Fissure

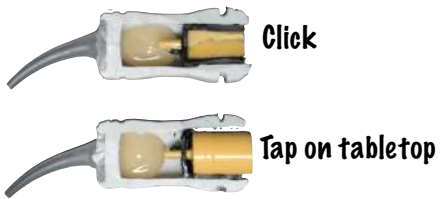


Activate the capsule



Courtesy of Dr. Brian Novy

One click makes all the difference!



Courtesy of Dr. Brian Novy

White vs. Pink



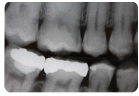
HIGH CARIES RISK

- Incipient caries
- Demineralization
- Xerostomia
- 60+ years old
- Orthodontics
- Recreational drug use



- Smoking
- Infectious contact

WHO ELSE IS AT HIGH RISK?



Active Caries



Fixed Partial Dentures

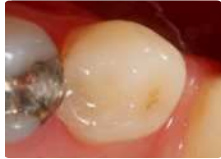


RPD



Extensive Restorative History

"WATCH" AREAS



We no longer watch caries get larger, we can now predictably reverse or stop the process!

Intra-oral Camera

- ★ Documentation
- ★ Patient education
- ★ Treatment acceptance
- ★ Informed consent
- ★ Before & Afters
- ★ All teeth to be "monitored"



CLINICAL CARIES RE-EVAL APPOINTMENT

- Provide remineralization therapy (high risk protocols)
- Schedule re-eval with doctor who originally diagnosed in one month
- Continue remineralization therapy or schedule appointment for restorative if needed
- Avoid "the poke"

EXPLORER

Don't depend on a "stick" to find caries

17-40% accurate (Lussi 1991, Panning 1992, Pereira 2001)

Transfer of bacteria

Potential for damage of intact surfaces

RADIOGRAPHIC CARIES RE-EVAL APPOINTMENT

- Provide remineralization therapy
- Bitewing x-ray 3-6 months
- Evaluate for reversal, stability or progression
- Evaluated by doctor who originally diagnosed

RISK REDUCTION HIGH RISK

- Patient handouts
- Oral hygiene instructions
- Diet assessment
- MI Paste Plus
- Xylitol (6-10g/day)
- 3-4 month recall
- Fluoride varnish -OR-
- Chlorhexidine Varnish



MI Paste Plus



Alternative to Chlorhexidine Rinses



The Oral Ecosystem

400-700 microorganisms in the oral cavity
Many are considered "good bacteria".
Many have not been named or classified and their role in health or disease has yet to be determined.

Consider probiotics!







Crest Pro-Health [HD]

Step 1: Mechanical Plaque Removal
Anti-plaque/ gingivitis

Step 2: Whitening Agent
Hydrogen peroxide



BRUSH WITH
STEP 1
for 1 MINUTE



SPIT
DO NOT RINSE



ADD STEP 2 /
KEEP BRUSHING
for 1 MINUTE



SPIT
RINSE

Glass Hybrid Restoratives in Dentistry

Acid-base Reaction

FLUOROALUMINOSILICATE GLASS + POLYACRYLIC ACID = GLASS IONOMER

1. Glass is attacked by H^+ , releasing Al, Ca, F, Na ions
2. pH increases, further ionization of polyacrylic acid
3. Al and Ca migrates into the aqueous phase
4. Ionization of polyacrylic acid leads to unwinding of polymer chain. Viscosity of material increases.
5. Cations condense on the polymer chain.
6. Formation of an insoluble salt

www.mi.gceurope.com

Glass Ionomers advantages

- Self-adhesive to tooth structure
- Strong chemical adhesion
- Excellent marginal seal
- Hydrophilic
- High fluoride release
- Biocompatible

DIRECT GLASS IONOMER

Direct restoratives with EQUIA Forte



INITIAL PRESENTATION



IMMEDIATE POST-OP

DIRECT GLASS IONOMER

Direct restoratives with EQUIA Forte



INITIAL PRESENTATION



PREPARATION



IMMEDIATE POST-OP

DIRECT GLASS IONOMER

Direct restoratives with EQUIA



INITIAL PRESENTATION

**"it hurts when I bite."
Pain isolated to ML cusp**

DIRECT GLASS IONOMER

Direct restoratives with EQUIA



PREPARATION



IMMEDIATE POST-OP

32 months

DIRECT GLASS IONOMER CROWN



INITIAL PRESENTATION

DIRECT GLASS IONOMER CROWN

EQUIA



DIAGNOSTIC WAX UP



NO TOOTH PREPARATION

DIRECT GLASS IONOMER CROWN

EQUIA



A SILICONE MATRIX-GUIDED DIRECT RESTORATION

DIRECT GLASS IONOMER CROWN

EQUIA



IMMEDIATE POST-OP

DIRECT GLASS IONOMER CROWN

23 Month Follow-up



DIRECT GLASS IONOMER CROWN

23 Month Follow-up



No remarkable occlusal wear!

Caries Management in Practice Case 2



Chief Complaint:
"I didn't like my last dentist, so I haven't gone in a while. My wife is your patient, and to be honest, she sent me here."



Perio:

- Generalized gingivitis
- Oral hygiene needs improvement

Incipient Caries:

17-M

Caries:

2-MO, 5-DO, 16-B, 17-O,
18-MOD, 29-MOD



Caries Risk Assessment

| | |
|-----------------------------------|-------------------------|
| Xerostomia | Orthodontics |
| Caries within 3 years | Prosthetic treatment |
| Incipient caries/demin | Extensive restorations |
| Gingival recession | 60+ years old |
| Recreational drug use | Smoking |
| Diet high in sugar/carbs/acid | Infectious contact |
| Poor plaque control | Deep pits/fissures |
| Growing up without F ₂ | Acidic oral environment |

Caries within 3 years
+
Incipient caries
+
High Caries Risk
+
Poor oral hygiene
+
Extensive restorations

High Caries Risk

Risk Reduction Recommendations

1. Oral hygiene instructions
 - high risk handout, individualized OHI
2. Restorative treatment plan
 - glass ionomer for small restorations
 - glass ionomer cements for indirect
3. Nutritional counseling
 - sugar, sipping coffee
4. MI Paste Plus, CHx Varnish then MI Varnish
5. Recall: 4 months initially, then 6 if caries is under control

Follow up Tri-Plaque ID



Remember her?



This patient will be placed at high risk for the duration of her orthodontic therapy

EXTREME HIGH CARIES RISK



Severe xerostomia
Multiple medications
Systemic conditions



Multiple high risk factors/acidic oral environment

Planning/undergoing chemotherapy or radiation



Special needs patients

Uncontrolled GI disorders
Acid reflux, H. pylori, rumination

High caries incidence
Unknown cause
Recreational drug use

RISK MANAGEMENT EXTREME RISK

Patient handouts

Oral hygiene instructions

Diet assessment

Fluoride varnish

Xylitol (6-10g/day)

3 month recalls



MI Paste Plus

+

pH Increasing Strategies

BAKING SODA TOOTHBRUSHING RAISES PH

Baking soda has an abrasion index of 7

The Relative Dentin Abrasion (RDA) Index
adopted by the American Dental Association

RDA: ability to remove stain,
NOT a measure of safety

No additional benefit over 250

<250: Safe for a lifetime of use

<http://www.ada.org/en/member-center/oral-health-topics/toothpastes>



CTX2 SPRAY



pH 9



*Glycerine
Xylitol
Natural Flavoring*

RISK REDUCTION HIGH/EXTREME RISK

Patient handouts

Oral hygiene instructions

Diet assessment

Fluoride varnish

MI Paste Plus

Xylitol (6-10g/d)

3-4 month recall



MI Paste Plus

Getting Started *(behind the scenes)*

1. Office meeting
 - Decide products
 - Cost
 - Insurance coverage
 - Office protocols (who does what)
2. Make documentation templates
 - Oral health related quality of life
 - CAMBRA
3. Handouts

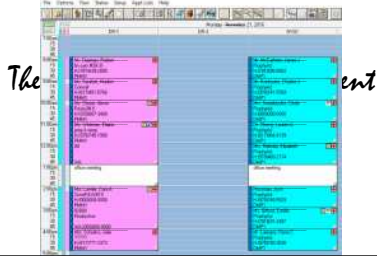
The hygiene visit with Caries Management

1. Seat your patient
 - OHRQOL
 - Med hx review
2. Clinical and Risk Assessment
 - Clinical findings
 - Risk factors
 - Diet and habit review
3. Risk Management: *"We have a new approach to prevent disease in your mouth so that we can treat you more conservatively."*
4. Patient Education
 - Handouts
 - OHI
5. Periodic Exam with Dentist
 - Confirm recommendations
6. Fluoride Varnish Application
7. Recall based on risk

What do I charge?

| | Cost to Office | Cost to Patient |
|------------------------|----------------------|--|
| MI Paste/MI Paste Plus | \$15.75 | \$25 |
| White spot removal | \$15.75 + chair time | \$300/3 sessions (30 minute sessions) |
| Fluoride Varnish | \$1.75 | \$35 <small>(average \$45-50)</small> |
| Sealants | \$195/50 capsules | \$51 per tooth |

The Dental Hygiene Schedule



Let's do the math

FEE PER HYGIENE VISIT (INCLUDE EXAM): \$175

AMOUNT OF TIME PER HYGIENE VISIT: 1 HOUR

PRODUCTION PER HOUR: \$175

Additional procedures (during hygiene visit):
Radiographs, Fluoride varnish, Periodontal medicaments

Planned procedures: FMX

Separate Procedures: Bleaching, ScRP, Sealants

POTENTIAL PROFITS

5 days a week/ 48 weeks a year

Before Implementation

RDH: 8 Patients/day

\$140 x 8 = \$1,120/ day

= \$5,600/week

= \$268,800*/year

After Implementation

RDH: 8 Patients/day

8 Pro+8 Flz + 7 MI Paste/ day

\$1120 + \$280 + \$175/day

= \$1575/day

= \$7875/week

= \$378,000*/year

* Does not include radiographs, sealants, white spot removal, tooth whitening

Almost a 30% Increase!

MAINTENANCE

What are the next steps?

HERE'S WHAT THEY SAY...

If a patient is caries free for 3 years, the practitioner may consider classifying the patient in a *lower caries risk category*.

J California Dental Assoc. Oct/Nov 2007

CARIES

Caries is the most prevalent disease in the world
Surgeon General: dental caries is the single most common chronic disease of childhood

Starting at age 60, tooth decay rates are equal to or greater than adolescent decay rates who grew up with no fluoride in the water
91% of adults are affected by caries in their lifetime

World Health Organization 2010
Healthy People 2010, Surgeon General Report
Ellienger R. Oral health and the dental profession. J Am Dent Assoc 2007; 138(9): 55-61
Bellon-Aguilar ED, Barker SL, Corito MS, et al. Centers for Disease Control and Prevention. Surveillance for dental caries, dental sealants, tooth retention, edentulism and orofacial dysfunction - United States, 1989-94 and 1999-2002. MMWR Surveill Summ 2005;54(2): 1-43

“If the disease is controlled with medicaments and risk management AND the risk factors are still present, the patient will be treated at the existing risk category for life. I will consider reducing the caries risk classification only in cases where the disease is controlled AND the risk factors are eliminated.”

- Pamela Maraglino-Muniz

IMMEDIATE REWARDS

- Enhanced production within your hygiene department
- Improved communication
Patients
Office staff
- Practice at the highest standard of care
- Legal protection

LONG-TERM REWARDS

- Improved patient retention & new patient referrals
- Increased production for elective dental procedures
- Improved experience

Patients
Office

Summary


- CAMBRA is beneficial to all patient populations/practice types
- Dental hygienists hold the key for successful implementation
- Understanding the role of risk factors facilitate risk management decisions
- the "KISS" Principle


THANK YOU
for your kind attention


THANK YOU
for your kind attention



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