

CREATING URGENCY FOR PREVENTIVE DENTAL CARE

Treat the Cause of Dental Disease, not
Just the Effect



GLOBAL ORAL HEALTH STATUS REPORT

WHY THE URGENCY?

Oral diseases affect approximately 3.5 billion people worldwide, with 3 out of 4 people affected living in middle-income countries. Globally, an estimated 2 billion people suffer from caries of permanent teeth and 514 million children suffer from caries of primary teeth.

Prevalence of the main oral diseases continues to increase globally with growing urbanization and changes in living conditions. This is primarily due to inadequate exposure to fluoride

IT IS TIME TO ACT



According to the National Institute of Dental and Craniofacial Research, cavities affect 92% of adults ages 20 to 64, while 42% of children ages 2 to 11 develop cavities in their primary (baby) teeth, and 21% of children ages 6 to 11 develop cavities in their permanent teeth.

Which group is at greater risk?

HEALTHY PEOPLE 2030

Dental Decay is now considered a global epidemic.

1

Reduce the proportion of adults with active or untreated decay.

2

Reduce the proportion of older adults with untreated root surface decay.

3

Reduce the proportion of adults aged 45 years and over who have lost their teeth.

DENTAL DECAY RISK FACTORS BASED ON AGE

Child risk factors

- High oral bacterial counts
- Frequent consumption of sugar-containing foods
- Inadequate fluoride exposure
- Low socioeconomic status
- Xerostomia related to medications or disease
- Eating disorders



Adult risk factors

- High oral bacterial count
- Frequent consumption of sugar-containing foods
- Inadequate fluoride exposure
- Most don't receive professional fluoride treatments
- Low socioeconomic status
- Xerostomia related to medication and disease
- Root exposure
- Eating disorders
- Acid reflux
- Physical disabilities and dementia
 - Brushing and other oral hygiene activities become more difficult
- Existing restorations or appliances
 - Recurrent caries common at site of existing restorations

Multiple risk factors increases the urgency!

ADA POSITION ON CARIES MANAGEMENT

Dental Caries Management

Mainly operates through irreversible and symptomatic treatment by means of drilling and filling, while caries prevention is largely overlooked or omitted. ¹

New Paradigm in Caries Management

Carries detection, risk assessment and classification, as well as prevention/risk management strategies will help reduce the risk of patients developing advanced disease and may even arrest the disease process. ²

1. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6631812/>

2. <https://www.ada.org/en/member-center/oral-health-topics/caries-risk-assessment-and-management>

IS CARIES MANAGEMENT ONLY FOR CHILDREN?

Absolutely not- adults
have a higher risk of
decay and are offered
fewer prevention
options

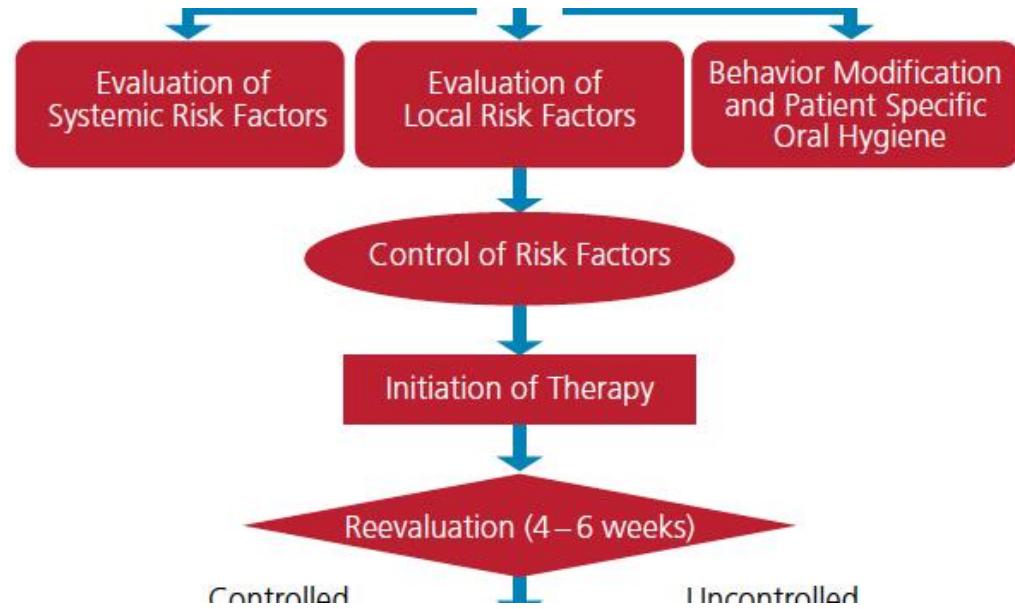


WHY ARE DENTAL PROFESSIONALS RELUCTANT TO PRESCRIBE FLUORIDE VARNISH TO ADULTS?

These barriers can be overcome!

- Lack of insurance coverage; concern with discussing 'additional' fee with pt.
- Difficulty placing varnish.
- Poor taste and appearance.
- The unacceptable sensation the patient feels for hours after treatment.
- Office has not formally updated its treatment protocols to include adult preventive care.

WHAT DENTAL DISEASE MANAGEMENT SYSTEMS ARE IN YOUR PRESENT PRACTICE?



PERIODONTAL
DISEASE
MANAGEMENT



CARIES DISEASE
MANAGEMENT

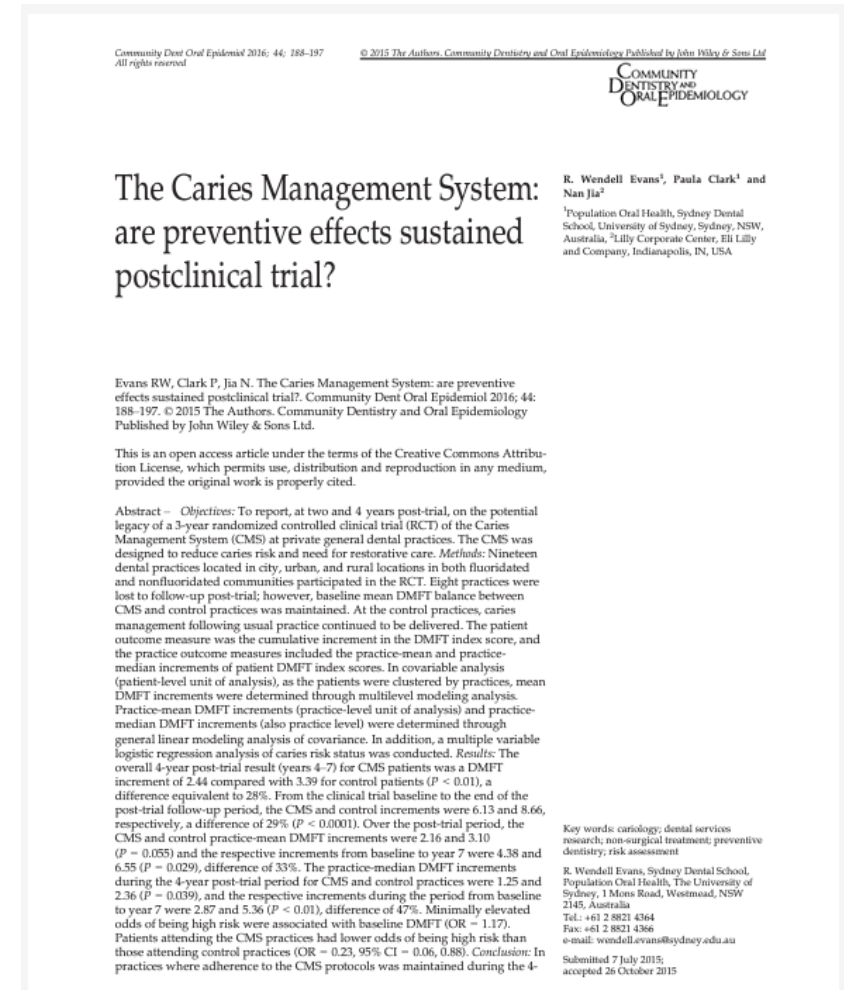
CARRIES MANAGEMENT SYSTEM (CMS)

Study on Caries Management Efficacy

In a caries-active adult population with fluoride exposure showed

- 50% of non-cavitated lesions reversed during a 33-month period
- 25% of non-cavitated lesions remained stable
- 20 % of non cavitated lesions oscillated between progressing and regressing
- 8.3% progressed to cavitation

Evans, RW, Clark, P, Jia, N. The Caries Management System: are preventive effects sustained postclinical trial?. *Community Dent Oral Epidemiol* 2016; 44: 188– 197. © 2015 John Wiley & Sons A/S. Published by John Wiley & Sons Ltd.



CARIES MANAGEMENT SYSTEM (CMS)

Treat the cause as well as the disease

CMS comprises a set of protocols

- Risk Assessment (CRA)
- Diagnosis
- Caries Disease Management (CDM)
 - ❖ Behavior modification- oral hygiene and diet
 - ❖ Caries prevention and arrest – topical fluorides, sealants

Evans, RW, Clark, P, Jia, N. The Caries Management System: are preventive effects sustained post clinical trial?. *Community Dent Oral Epidemiol* 2016; 44: 188– 197.

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STEPS FOR A SUCCESSFUL CARIES MANAGEMENT SYSTEM

Will aid in identifying non-invasive or non-restorative occlusal and approximal lesions



The Risk of Caries:

Patient case history and clinical examination provides information regarding risk factors.

Diet, plaque control and salivary function must also be assessed.



Lesion Status:

Use air to evaluate pits and fissures for any incipient lesions and enamel breaks then record the ICDAS code.

Be cautious of using sharp explorer and adding too much pressure as this can result in iatrogenic damage to the tooth.

Bitewings to evaluate radiolucency and measure the extent of the lesions.



Treatment Planning:

Caries management options are...

- Preventive
- Preservative (non-invasive)
- Operative (invasive)



Monitoring:

Setting re-care appointment based on risk.

Radiographic frequency should be based on ADA guidelines.

IDENTIFY RISK FACTORS

- Patient self evaluation
- Clinical evaluation

Patient Name: _____ Patient ID #: _____
Provider Name: _____ Date: _____

CARIES RISK ASSESSMENT – FOR HYGIENIST USE

All Patients Aged 6+ Years

CARIES RISK FACTORS

Col. 1

Col. 2

Col. 3

A. DISEASE INDICATORS

CHECK IF YES

1. New cavitated lesion(s) into dentin (radiographically)

2. New noncavitated lesion(s) in enamel (radiographically)

3. New white spot lesions on smooth surfaces

4. Restorations due to caries in last three years

5. Other

B. BIOLOGICAL OR ENVIRONMENTAL RISK FACTORS

CHECK IF YES

1. Hyposalivation/Reduced salivary flow

2. Heavy plaque on the teeth

3. Use of medications that induce xerostomia

4. Deep pits and fissures

5. Exposed tooth roots

6. Recreational drug use

7. Daily or greater consumption of energy drinks, fruit juices, soda

8. Frequent snacking (3 times daily)

9. Other

C. PROTECTIVE FACTORS

CHECK IF YES

1. Fluoridated water

2. F toothpaste once or more a day

3. 5,000 ppm F toothpaste

4. F varnish in the last six months

5. 0.05% sodium fluoride mouth rinse daily

6. 0.12% chlorhexidine gluconate mouth rinse daily (at least 7 days/month)

8. Normal salivary function

9. Other

TOTAL RISK FACTORS:

Col. 1 Total

Col. 2 Total

Col. 3 Total

DISEASE DIAGNOSIS: RISK FOR DEVELOPING CARIES

✓ HIGH RISK = One or more disease indicators in Col. 1

✓ MODERATE RISK = Two or more risk factors/disease indicators in Col. 2

✓ LOW RISK = No risk factors/disease indicators checked in Col. 1 or 2

HIGH RISK

MODERATE RISK

LOW RISK

PREScription:

TREATMENT PLAN:

Apply Every 3-4 Months

Apply Every 6 Months

Apply Every 6 Months

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Making Dentistry Easier™

Patient Name: _____ Patient ID #: _____
Provider Name: _____ Date: _____

PATIENT SELF-ASSESSMENT

Are You at Risk for Adult Cavities?

(Circle all that apply)

Hygienist Reference

I have had a cavity or other dental work within the last three years

I can see white spots on my teeth

I regularly snack between meals (> 3 times daily)

On most days I drink fruit juices, soda or energy drinks

I take over-the-counter or prescription medication

I occasionally have a dry mouth

I have gum recession

I have braces or wear an orthodontic appliance

I drink fluoridated water

I brush at least once a day with fluoride toothpaste

My hygienist applies protective fluoride varnish to my teeth at every visit

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

✓

A.4

A.3

B.3

B.2

B.4

B.1

B.8

B.9

C.1

C.2

C.4

Please give this form to your dental hygienist.

This helps them evaluate your oral health and risks for developing cavities at any age.

Internal use only. Suggestions made during appointment.



















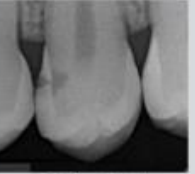
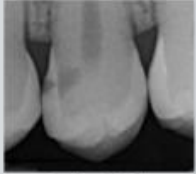
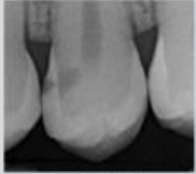
✓ HIGH RISK, ACTION NEEDED NOW
✓ MODERATE RISK, WE SHOULD TALK!
✓ LOW RISK, GREAT JOB!

Disclaimer: This is a risk assessment tool and is not to be used as the sole determinant for patient treatment. The clinical judgment of a dental professional, review of the health history and a full exam are part of the comprehensive assessment.

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ADA CARIES CLASSIFICATION SYSTEM

AMERICAN DENTAL ASSOCIATION CARIES CLASSIFICATION SYSTEM							
	Sound	Initial		Moderate		Advanced	
Clinical Presentation	No clinically detectable lesion. Dental hard tissue appears normal in color, translucency, and gloss.	Earliest clinically detectable lesion compatible with mild demineralization. Lesion limited to enamel or to shallow demineralization of cementum/dentin. Mildest forms are detectable only after drying. When established and active, lesions may be white or brown and enamel has lost its normal gloss.		Visible signs of enamel breakdown or signs the dentin is moderately demineralized.		Enamel is fully cavitated and dentin is exposed. Dentin lesion is deeply/severely demineralized.	
Other Labels	No surface change or adequately restored	Visually noncavitated		Established, early cavitated, shallow cavitation, microcavitation		Spread/disseminated, late cavitated, deep cavitation	
Infected Dentin	None	Unlikely		Possible		Present	
Appearance of Occlusal Surfaces (Pit and Fissure)*,†	ICDAS 0 	ICDAS 1 	ICDAS 2 	ICDAS 3 	ICDAS 4 	ICDAS 5 	ICDAS 6 
Accessible Smooth Surfaces, Including Cervical and Root‡							
Radiographic Presentation of the Approximal Surface§	 E0¶ or R0* No radiolucency	 E1¶ or RA1*	 E2¶ or RA2*	 D1¶ or RA3*	 D2¶ or RB4*	 D3¶ or RC5*	 Radiolucency extends into the inner one-third of the dentin

* Photographs of extracted teeth illustrate examples of pit-and-fissure caries.

† The ICDAS notation system links the clinical visual appearance of occlusal caries lesions with the histologically determined degree of dentinal penetration using the evidence collated and published by the ICDAS Foundation over the last decade; ICDAS also has a menu of options, including 3 levels of caries lesion classification, radiographic scoring and an integrated, risk-based caries management system ICCMS. (Pitts NB, Ekstrand KR. International Caries Detection and Assessment System [ICDAS] and its International Caries Classification and Management System [ICCMS]: Methods for staging of the caries process and enabling dentists to manage caries. *Community Dent Oral Epidemiol* 2013;41[1]:e41-e52. Pitts NB, Ismail AI, Martignon S, Ekstrand K, Douglas GAV, Longbottom C. ICCMS Guide for Practitioners and Educators. Available at: https://www.icdas.org/uploads/ICCMS-Guide_Full_Guide_US.pdf. Accessed April 13, 2015.)

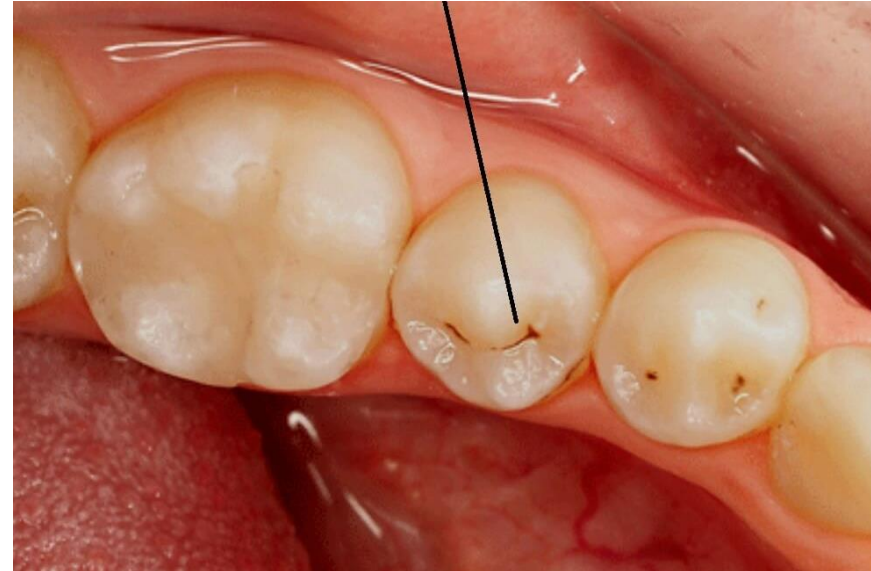
‡ "Cervical and root" includes any smooth surface lesion above or below the anatomical crown that is accessible through direct visual/tactile examination.

§ Simulated radiographic images.

¶ E0-E2, D1-D3 notation system.³³

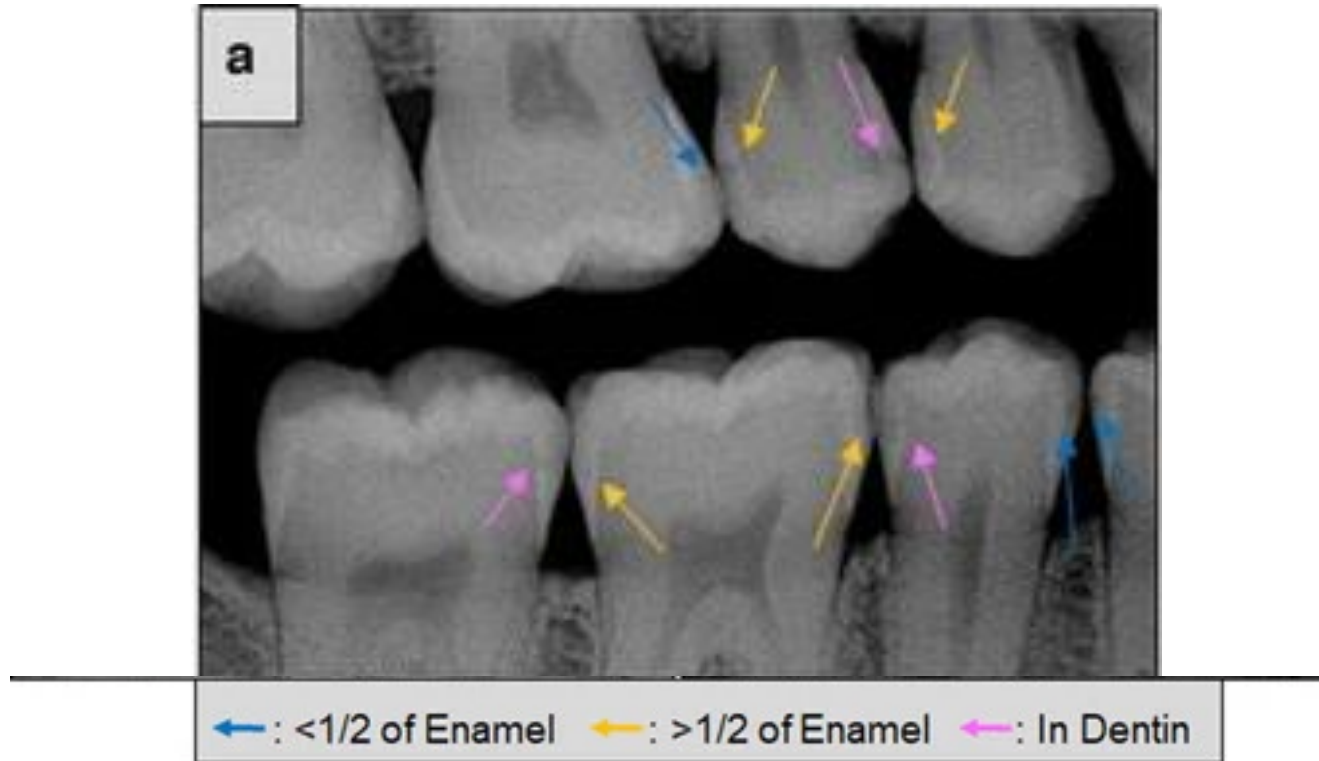
R0, RA1-RA3, RB4, and RC5-RC6 ICCMS radiographic scoring system (RC6 = into pulp). (Pitts NB, Ismail AI, Martignon S, Ekstrand K, Douglas GAV, Longbottom C. ICCMS Guide for Practitioners and Educators. Available at: https://www.icdas.org/uploads/ICCMS-Guide_Full_Guide_US.pdf. Accessed April 13, 2015.)

Demineralization and Incipient Decay



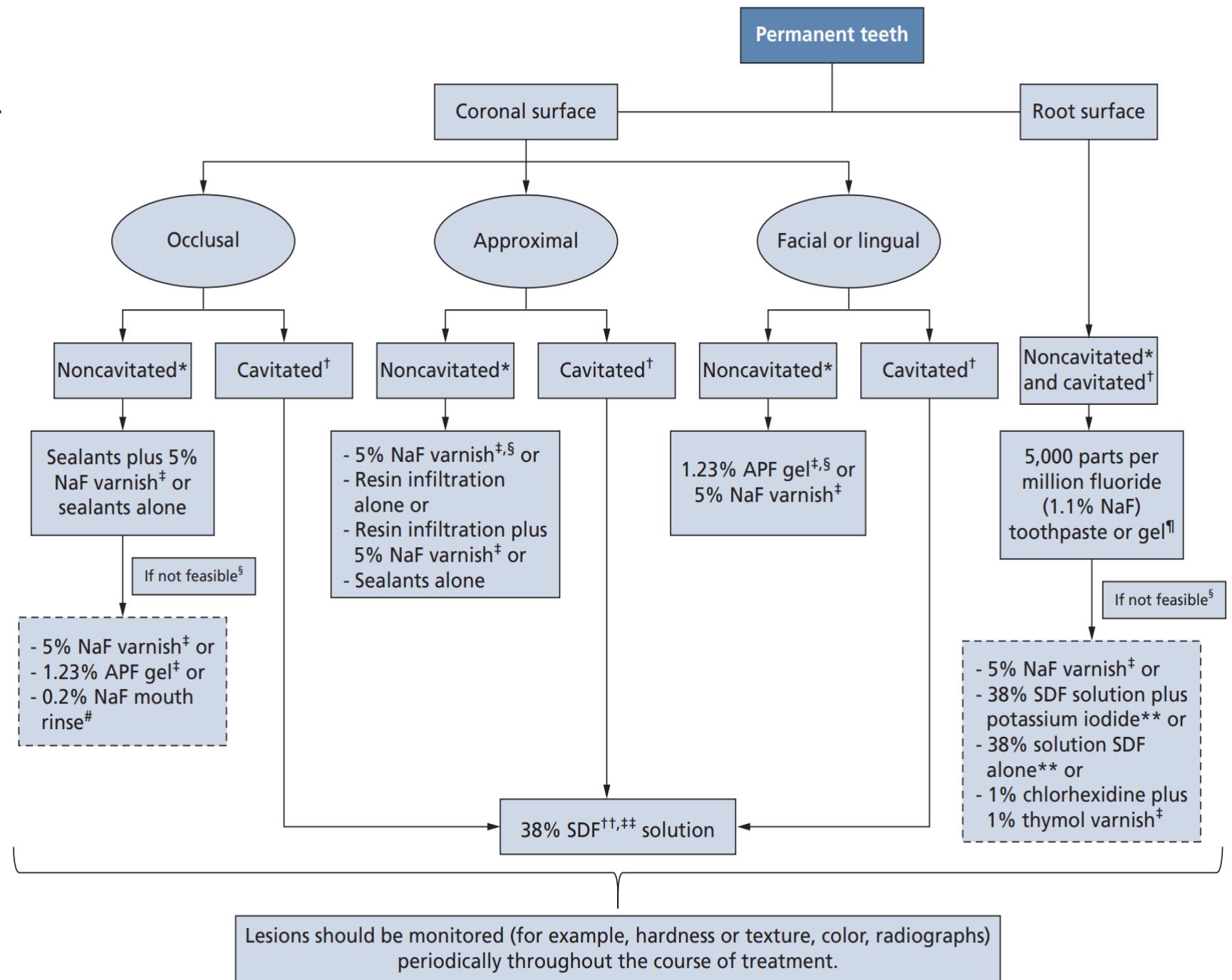
Watch or Treat?

MOVE TO TREATMENT – Even if you don't need a drill



Clinical Pathway for Non-Restorative Treatment

<https://jada.ada.org/action/showPdf?pii=S0002-8177%2818%2930469-0>



FLUORIDE VARNISH MATTERS



Why varnish for adults?

- Approximately half of U.S. adults experience tooth sensitivity.
- 91% of U.S. adults with dental decay are between the ages of 20 and 64.
- More than four million people in the United States wear braces, and of those, 25% are adults.
- 66% of adults take prescription drugs; most cause xerostomia.

Benefits of varnish.

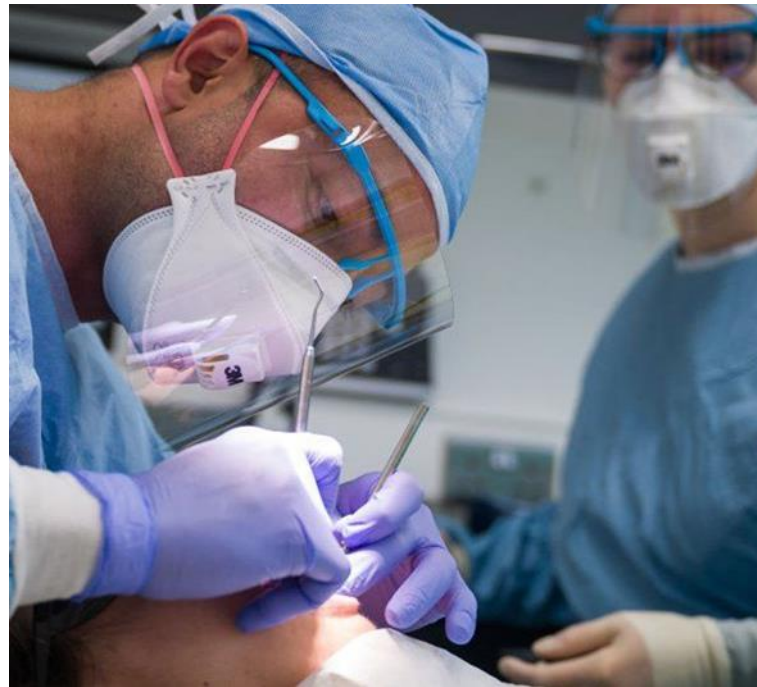
- Varnish can reduce hypersensitivity especially along the cervical margins.
- Improve enamel resistance against acid attacks.
- Reduce the risk of caries among high-risk patients.
- Treat sensitivity after tooth whitening.

<https://www.dentaleconomics.com/science-tech/article/16388104/3-ways-dental-hygienists-can-boost-acceptance-of-fluoride-varnish-for-adults>

<https://singlecare.com>. Prescription drug statistics 2023

TEAM APPROACH TO CARIES MANAGEMENT

- Limiting preventive care only to dental hygiene visits creates missed opportunities for increasing preventive care for all patients
- Most adults have a high risk for decay and or sensitivity.
- The entire team can be the solution to not only treating the disease but getting to the root of the cause and preventing future disease.



MISSED OPPORTUNITIES



MISSED
HYGIENE



THE 6-MONTH
RE-CARE



COSMETIC &
RESTORATIVE
SERVICES



ORTHO
PATIENT



DENTIN
SENSITIVITY



CANCER
TREATMENT

THE 6-MONTH RE-CARE OR NO RE-CARE

The 2006 ADA clinical recommendations suggest that people at highest caries risk may obtain improved caries prevention benefit for applications of fluoride varnish at three-month intervals. ¹

- What happens to the patient that has a high risk for caries but not periodontal disease?

OR

- The patient that is not scheduled for hygiene for multiple reasons and only comes in for emergency situations
 - Apply fluoride varnish at their restorative visit and other preventive medicaments needed, during restorative visit then set the hygiene appointment
 - Schedule the patient with an assistant in between the hygiene visit or restorative visit if no hygiene is scheduled

These roadblocks, and others, have limited the use of an important tool that can be very successful in disease prevention!

COSMETIC DENTAL TREATMENT

- Temporary crowns or provisional crown for cosmetic cases¹
 - Temporary crown usually means present decay and can cause sensitivity.
 - Provisionals can be worn for up to 6 months and may cause marginal leakage.
- Prior to or after in-office and at home whitening to help with sensitivity²
 - Mild tooth sensitivity can be expected in approximately one-half of patients who undergo home whitening.
 - Approximately 10 percent of patients may experience moderate sensitivity.
 - 4 percent of patients may experience severe sensitivity for one to two weeks.



PREP TEETH



TEMPORARY VENEER



1. [https://www.perioimplantadvisory.com/restorative-dentistry/article/16412226/temporaries-versus-provisionals-an-important-distinction\](https://www.perioimplantadvisory.com/restorative-dentistry/article/16412226/temporaries-versus-provisionals-an-important-distinction)
2. <https://pubmed.ncbi.nlm.nih.gov/12198987/#:~:text=Conclusions%3A%20Mild%20tooth%20sensitivity%20can,for%20one%20to%20two%20weeks.>

RESTORATIVE CARE

Take a team approach to prevention and treatment

- Patients with caries are considered at the highest risk to develop additional caries until they go 2 or more years caries-free!
- Placing a restoration does not eliminate the caries (treat the cause not just the effect)
- There are other areas in the mouth that may not show the clinical signs yet, so why wait until the next hygiene visit
- Place fluoride varnish after the restoration has been placed – it only takes a minute and can be done by the dental assistant
- Patients who have crowns placed due to decay have a higher risk for root decay or loss of restoration if the acid attacks are not neutralized
- The ADA recommends fluoride varnish every 3 to 4 months if patient is high risk
- Providing a standard of care that has been recommended by the American Dental Association not only benefits your patients but can also have a secondary practice benefit of increased revenue

ORTHODONTIC PATIENTS

The Association of Orthodontics states, adults seeking orthodontics is at an all time high.¹

- The use of fixed or removable orthodontic appliances may affect the distribution of oral microbiota ²
- Salivary proteins will be absorbed on the appliances, reducing bacterial fighting proteins ²
- Ortho appliances limit the mechanical self-cleaning process of saliva and musculature movement, thus increasing the risk for iatrogenic enamel demineralization ²
 - Caries assessment and risk factors must be considered
 - Prescribing fluoride varnish and at home therapies based on risk factors may need to increased to go beyond the routine dental hygiene visits

1. <https://aaoinfo.org/blog/number-of-adults-seeing-an-orthodontist-is-at-an-all-time-high/>

2. Metin-Gürsoy, G., & Uzuner, F. D. (2018). The Relationship between Orthodontic Treatment and Dental Caries. Dental Caries - Diagnosis, Prevention and Management. doi: 10.5772/intechopen.76470



DENTIN HYPERSENSITIVITY

- About 25–30% of the adult population report dentin hypersensitivity.
- Maxillary teeth are affected to a higher extent, but the different teeth show very similar rates.
- Root surface exposure due to periodontal disease is associated with a high rate of dentin hypersensitivity, especially after periodontal treatment.
- Women are slightly more affected than men and an age peak of 30–40 years has been reported.

CANCER THERAPY

Cancer patients have a high risk of oral complications for several reasons:

- Chemotherapy and radiation therapy slow or stop the growth of new cells, which slows down the ability of oral tissue to repair itself
- Radiation therapy may directly damage and break down oral tissue, salivary glands and bone
- Chemotherapy and radiation therapy upset the healthy balance of the oral flora
- The most common oral complications related to cancer therapies are mucositis, opportunistic infection (viral or fungal), salivary gland dysfunction, taste disturbance, and pain.
- The National Cancer Institute (NCI) recommends that dental professionals be considered part of the cancer care team in individuals undergoing cancer treatment to assist with preventive and therapeutic measures to combat oral complications

1. <https://www.cancer.gov/about-cancer/treatment/side-effects/mouth-throat/oral-complications-pdq#:~:text=Chemotherapy%20and%20radiation%20therapy%20may,%2C%20infections%2C%20and%20tooth%20decay.>

<https://www.ada.org/resources/research/science-and-research-institute/oral-health-topics/cancer-therapies-and-dental-considerations>

HOW TO IMPLEMENT A CARIES MANAGEMENT SYSTEM

Forget all the reasons why
it won't work and *Believe*
the one reason why it will.

TREAT EVERY PATIENT
BASED ON INDUSTRY
STANDARDS OF CARE

ETHICAL RESPONSIBILITY
IS TO DIAGNOSE,
TREATMENT PLAN,
EDUCATE AND LET THE
PATIENT DECIDE



WHERE TO START

Start with patients having the greatest risk

- Patients having cancer therapy all must be enrolled in a CMS
- Patient with new decay- do varnish all their restorative visit
 - Treat the cause of decay
 - Simply removing decay and placing a restoration is not enough; the oral cavity must achieve a bacterial balance in order to reduce the cariogenic attack ¹
- Provide CMS steps to all new patient' exams
- Set a reasonable fee for fluoride varnish.
- Commit to being pro-active in disease management.



• <https://www.dentaleconomics.com/science-tech/article/16385026/fluoride-varnish-for-adults-what-you-need-to-know>



HAVE A TEAM MEETING

- All team members need to be on the same page to be effective
- Share thoughts, explain the benefits
- Get input from team members
- Develop some guidelines to ensure system is understood
- Share the science to the non-clinical team
- Do a system analysis of how many patients in the last year have been diagnosed with caries and treatment planned for restorations
- Discuss the benefits for the patient
- Discuss the benefits for the practice

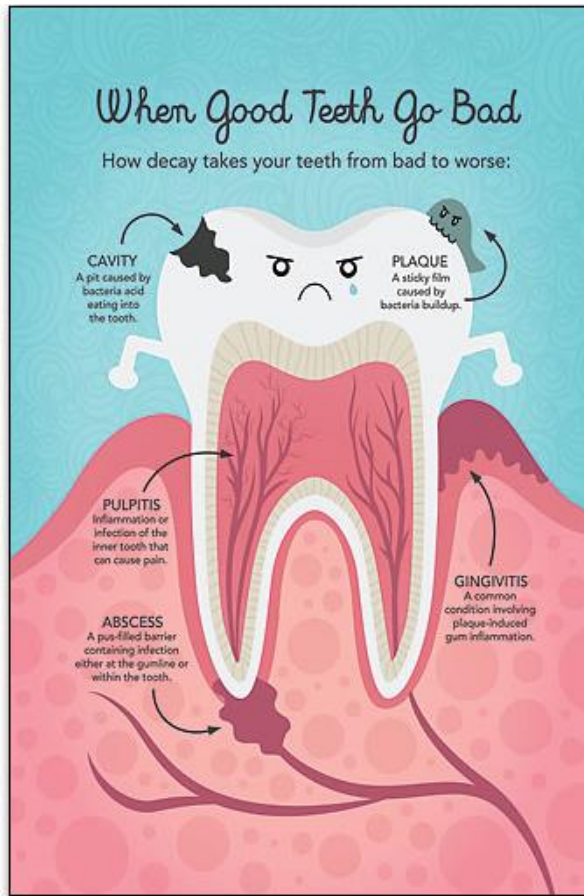


ADD CARIES RISK CODES

These codes serve as documentation for fluoride varnish treatment

- D0601 caries risk assessment and documentation, with a finding of low risk
- D0602 caries risk assessment and documentation, with a finding of moderate risk
- D0603 caries risk assessment and documentation, with a finding of high risk

EDUCATION IS KEY



BEHAVIOR MANAGEMENT

WAYS TO HELP NEUTRALIZE ACIDS

Home strategies for patients

- **Drink water.** Water is basically neutral on the pH scale. Drinking water after and during a meal can clean the mouth overall by washing away any residue before it stays in your mouth.
- **Sugar-free gum or gum with xylitol.** Chewing sugar-free gum stimulates saliva production, freshens your breath, and can help clean your teeth. Avoid gum that is spicy or sugary.
- **Stick of celery, a piece of broccoli, or a leaf of lettuce.** Because they separate into little pieces as you're chewing, all of these items act as exfoliators to clean the surfaces of your teeth. They also require plenty of chewing, stimulating saliva production.
- **Wait to brush teeth.** Wait about 30 minutes after eating before tooth brushing, especially if the foods were spicy or highly acidic. Rinse your teeth with water before you brush with toothpaste.

BEHAVIOR MANAGEMENT

KEEPING AN EYE ON WHAT YOU EAT

Frequency of sugars matters

- Remember . . . every time we eat or drink something that contains fermentable carbohydrates, bacteria in our mouth use the sugar and starch to produce acids. Acid attack can last up to 2 hours
- Our saliva can help fight off this acid attack. But if we eat frequently throughout the day -- especially foods and drinks containing sugar and starches -- the repeated acid attacks will win the tug of war, causing the tooth to lose minerals and eventually develop a cavity
- Limit the frequency of snacking. This reduces the number of acid attacks on teeth and gives teeth a chance to repair themselves

<https://www.nidcr.nih.gov/health-info/tooth-decay/more-info/tooth-decay-process>



EVALUATING AND TEACHING GOOD HOME CARE

Use disclosing solution during home care evaluation and education

Showing patient what they missed is a good visual

Ask when they last brushed their teeth

Apply and lip conditioner prior

Apply disclosing solution that reveals new, mature, and acid-producing biofilm.

Identify if there are home care limitations

Find solutions to limitations and barriers to brushing and flossing



HELP PATIENTS UNDERSTAND WHAT FLUORIDE IS

- Fluoride is a mineral that is found in your bones and teeth and can prevent tooth decay from progressing. It can even reverse, or stop, early tooth decay.
- Every day, the enamel that protects your teeth gains and loses minerals, such as fluoride, when bacterial acids attack the tooth.
- Fluoride works to protect teeth.
 - It prevents mineral loss in tooth enamel and replaces lost minerals.
 - It reduces the ability of bacteria to make acid that will destroy your tooth.

HELP EXPLAIN THE BENEFITS OF FLUORIDE VARNISH

Show and Tell

- This small investment may save time and money by potentially preventing future restorative treatment, which can be significantly more expensive than fluoride application (compare cost)
- Fluoride varnish can help fight against decay by strengthening tooth surfaces
- If the patient has existing restorations, let them know it can protect the fillings and crowns they've previously invested in
- Explain that fluoride varnish is not systemic, and they are less likely to ingest it
- If the patient has generalized recession and is sensitive around the gum line, mention how fluoride could be helpful in preventing future sensitivity and protecting those exposed root surfaces



TAKE AWAYS

- The status of oral health is alarming and requires all dental health care professionals to take urgent action.
- All patients, regardless of their age deserve the opportunity to have prevention and non-restorative therapy that are based on standard of care.
- Implementing a Caries Management System can aid in decreasing the burden of dental caries in your patients and provide a win-win for the practice.
- Fluoride varnish is proven to reduce cavities in adults as well as children and aid in arresting caries.
- Stop the 'watch and wait' and move into non-restorative treatment.
- Treat the cause not just the effect!

Prevention For Life[®]

Getting your patients through life caries free.

2 CE Credits

Getting your patients through life caries-free is attainable; **it just takes deliberate intervention at every stage of life.** This course will examine those risks and behaviors as they relate to your patient groups by age. You will use evidence-based risk factors to determine who will benefit from what level of intervention and learn to construct patient-centered strategies to affect change.

2 Free CE Credits!

Schedule Your Lunch & Learn



What You'll Learn

- ✓ Quickly assess the patients' risk level using an evidence-based protocol for known risk factors
- ✓ Effectively communicate the long-term benefits of fluoride varnish as a risk reduction tool
- ✓ Provide assessment and treatment with minimal change to your current hygiene appointment
- ✓ Establish an office protocol promoting risk assessment as an important part of patient and practice health

...and much more

You will learn about proven practice-based treatments such as fluoride varnish and home fluoride products that the patient/parent can include in their oral health routine.





QUESTIONS

Presented by
Catherine Cabanzon, RDH BASDH