

ROLE OF THE MEDICAL TEAM IN PREVENTING EARLY CHILDHOOD CARIES



FIRST FLORIDA ORAL HEALTH FLORIDA CONFERENCE

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CASE PRESENTATION

- It was on Jan. 11 that Deamonte Driver, a 12 year old black male and Medicaid recipient, came home from school complaining of a headache. At Southern Maryland Hospital Center, his mother said, he got medicine for a headache, sinusitis and a dental abscess. But the next day, he was much sicker.
- Eventually, he was rushed to Children's Hospital, where he underwent emergency brain surgery. He began to have seizures and had a second operation. The problem tooth was extracted.
- After more than two weeks of care at Children's Hospital, the Clinton seventh-grader began undergoing six weeks of additional medical treatment as well as physical and occupational therapy at another hospital. He seemed to be mending slowly, doing math problems and enjoying visits with his brothers and teachers from his school, the Foundation School in Largo.
- On Saturday, their last day together, Deamonte refused to eat but otherwise appeared happy, his mother said. They played cards and watched a show on television, lying together in his hospital bed. But after she left him that evening, he called her. "Make sure you pray before you go to sleep," he told her.
- The next morning at about 6, she got another call, this time from the boy's grandmother. Deamonte was unresponsive. She rushed back to the hospital. **"When I got there, my baby was gone,"** recounted his mother.

Some additional material

- Deamonte's bill for two weeks at Children's Hospital alone was about \$225,000.
- A routine \$80 tooth extraction might have saved him.
 - If** his mother had been insured.
 - If** his family had not lost its Medicaid.
 - If** Medicaid dentists weren't so hard to find.
 - If** he had received several applications of fluoride varnish and parental education in his younger years, applied by his pediatrician or family physician.

There have been at least **2 other deaths** since 2006 that we know about in Mississippi and New York.

What is the data here in Florida?

- There is currently only one dentist per 9,747 Medicaid Children
- Only about 10% of Florida Dentists participate in Medicaid.
- Only about 25% of Florida Medicaid recipients receive dental services and only about 10% of children under the age of 6 receive any dental services.
- There are about 400,000 Medicaid eligible children under age three in Florida including those in traditional Medicaid and managed care programs.
- During 2000-2003, on average per year, 1200 Medicaid recipients under 6 years of age had dental work done under general anesthesia.
- From July 1-2006-June30, 2007, 196 Medicaid recipients under age 6 were admitted to Florida hospitals for a life threatening dental infection.
- **CONCLUSION:** Young children cannot access oral health care from traditional dental sources in Florida resulting in lots of problems. We need to find a better way! Medical team intervention is one proven strategy used in about 25 other states! There are about 3,000 pediatricians and family physicians in primary care practice in the state of Florida. So- lets get physicians involved!

What can you do as a health care practitioner who sees young children?

Our suggested 5 step process!

Consistent with Florida Medicaid Requirement

- Oral screening examination as part of a well child checkup.
- Risk assessment, which should include assessment of mothers's/caregiver's oral health.
- Application of Fluoride Varnish
- Anticipatory Guidance/Parental Education including dietary and oral hygiene information
- Try to make a referral to a Dental Home

COURSE OUTLINE

- *Perspectives of American Academies of Pediatrics and Pediatric Dentistry and the Florida Dental Association*
- Overview of Dental Caries and Early Childhood Caries
- Pathophysiology of Caries Process
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- Physical: Oral Health Assessment
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- Treatment and Referral

American Academy of Pediatrics Oral Health Interventions

- Policy of the American Academy of Pediatrics for pediatricians specifically recommends that: **pediatricians, family practitioners, pediatric nurse practitioners, and physician assistants** should be trained to perform an **oral health risk assessment** on all children beginning by 6 months of age to identify known risk factors for early childhood dental caries.

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What is the primary concern?

Early Childhood Caries

- A severe, **rapidly progressing** form of tooth decay in infants and young children
- Affects teeth that erupt first, and are least protected by saliva
- Prevalence: 5% of all US children; **30-50% of low income children**
- 80% of decay occurs in about 20% of children



Initial lesions—white decalcification with beginning enamel breakdown



Late stage lesions—moderate to severe enamel and dentin destruction

Early Childhood Caries Can Lead to...

- Extreme pain
- Spread of infection/facial cellulitis, even death
- Difficulty chewing, poor weight gain
- Falling off the growth curve
- Extensive and costly dental treatment
- Risk of dental decay in adult teeth
- Crooked bite (malocclusion)



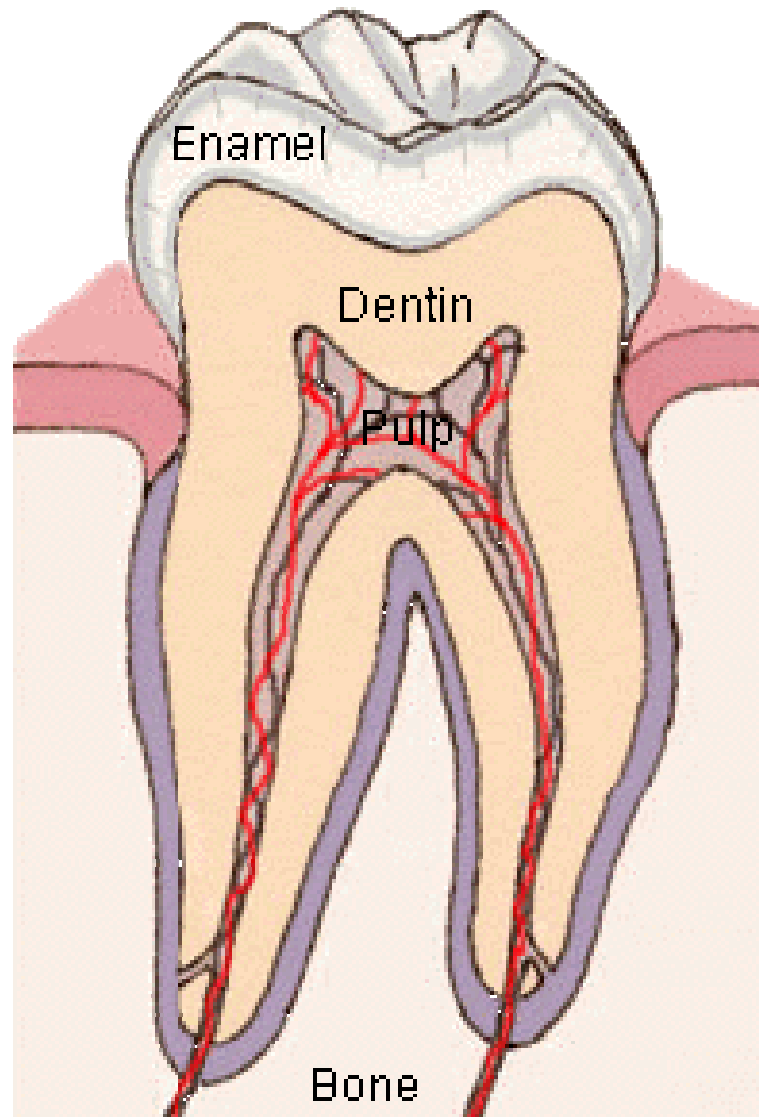
Key ECC facts:

- Surgeon General reports that dental caries is the most common chronic childhood disease **(5X asthma)**
- Dental caries is an **infectious disease** process
- **Cavities** are the outcome of a **disease** process
- **Low income and minority children** experience the most tooth decay (cavities)
- **Tooth decay increased 15.2%** in US children ages 2 to 5 between 1994 and 2002 (CDC/NHANES)

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The etiology of dental caries



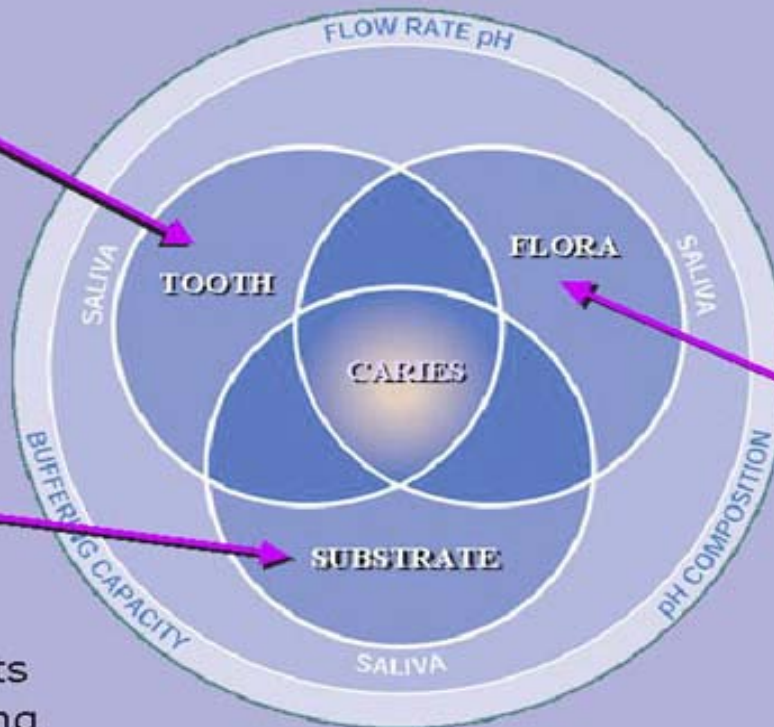
Factors Necessary for Caries

TOOTH

Age
Fluorides
Morphology
Nutrition
Trace Elements
Carbonate Level

SUBSTRATE

Oral Clearance
Oral Hygiene
Salivary Stimulants
Frequency of Eating
Carbohydrate (type, concentration)



FLORA

Strep mutans
(Substrate)
Oral Hygiene
Fluoride in
Plaque

Oral Flora:

How Does Infection Occur?

- Transmitted mainly from mother or primary caregiver to infant
- Window of infectivity is first 2 years of life (NOT TRUE)
- It is true that the earlier a child colonized, the higher the risk of caries



Substrate:

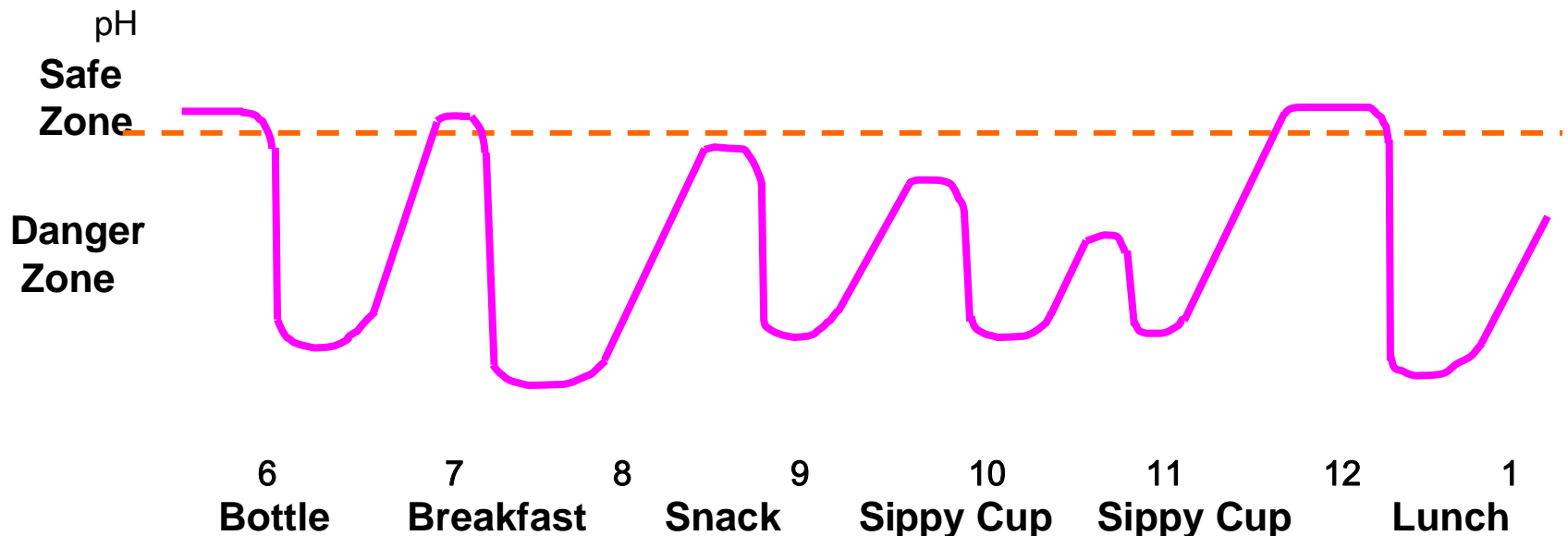
You Are What You Eat

- Caries is promoted by carbohydrates, which break down to acid.
- Acid causes demineralization of enamel.
- Frequent snacking promotes acid attack.
- Foods with complex carbohydrates (breads, cereals, pastas) are major sources of “hidden” sugars.
- High sugar content in sodas is a source of these substrates.



Not Just What You Eat, But How Often

- Acids produced by bacteria after sugar intake persist for 20 to 40 minutes.
- Frequency of sugar ingestion is more important than quantity.
- Saliva helps buffer acidity



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MAIN RISK FACTORS TO ASSESS DURING THE VISIT

- Mothers or other family members with untreated tooth decay.
- Evidence of poor hygiene care for the child.
- A diet high in sugar and fermentable carbohydrates.
- Improper bottle feeding and/or bottle use after age one.
- Breastfeeding at will throughout the night.
- Lack of access to fluoridated water or fluoride supplements
- Using pacifiers dipped in sugary substances.
- Patients on medications that cause dry mouth
- Certain characteristics of parents or caregivers.
 - Single parents overloaded with responsibilities.
 - Parents of children with special healthcare needs.
 - Parents who have limited support from social services.
 - Families with a pattern of substance abuse.
 - **BOTTOM LINE: By definition, Medicaid eligible kids are at HIGH RISK; you do not need to do a formal risk assessment**
- *Source: Berg JH, Domoto PK. The age-one dental visit—preventing early childhood caries. Inside Dentistry. 2007;3(3):38-44.*

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Oral screening examination is not designed as a definitive diagnosis



- But, on the way to the tonsils, please look at the teeth and soft tissues!

Child Oral Health Assessment

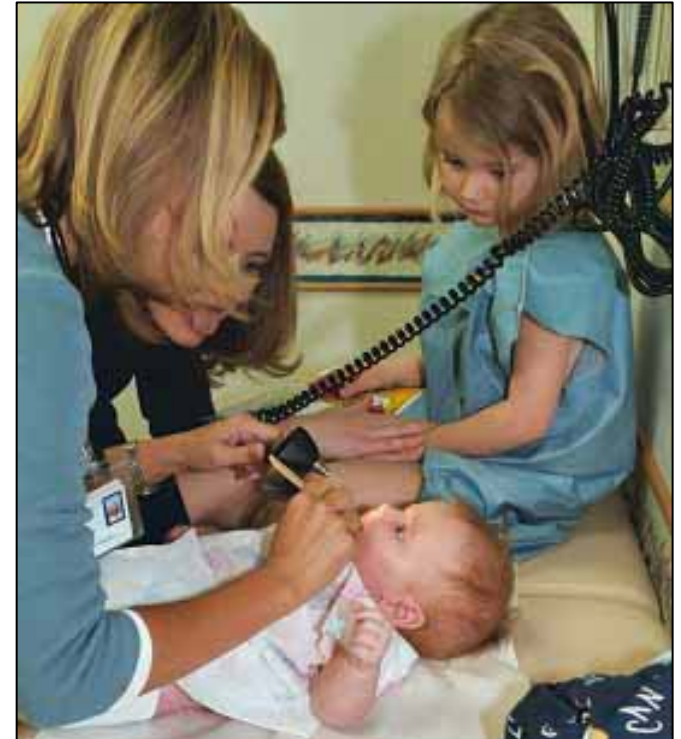
Positioning Child for Oral Examination

- Provide rationale to caregiver, describe caregiver role and explain what you will be doing and that child will probably object.
- Ensure adequate lighting and assemble necessary supplies.
- Position the child in the caregiver's lap facing the caregiver, with child's feet around waist of caregiver.
- Sit with knees together and also touching the knees of caregiver. Provides stable base for child.
- Lower the child's head onto your lap.
- Lift lips to inspect teeth and soft tissue.

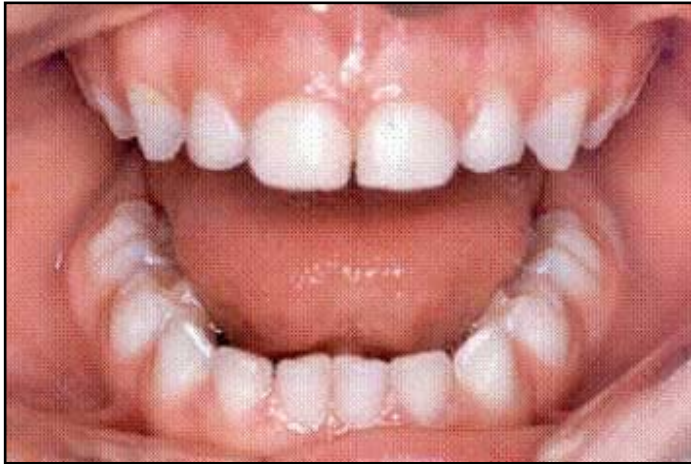


What to Look For During Oral Examination

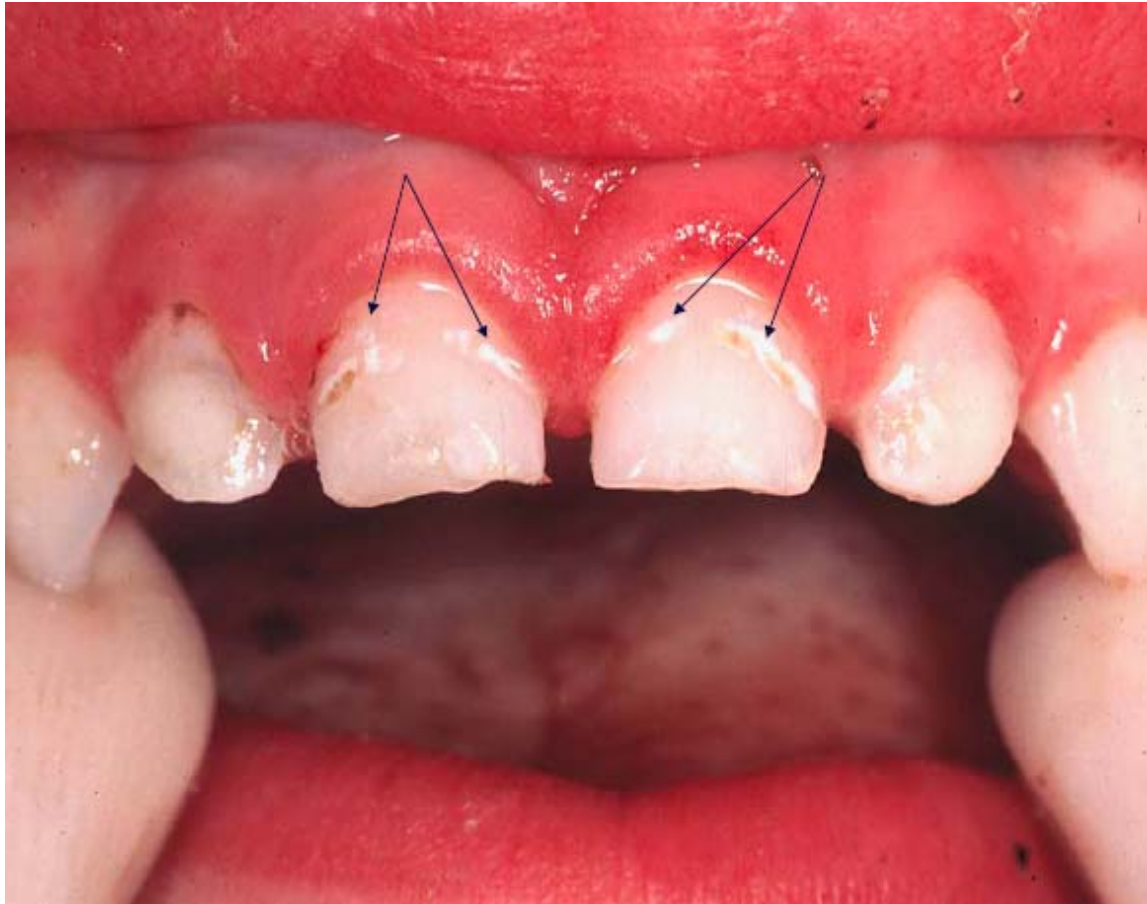
- **Lift the lip** to inspect soft tissue and teeth.
- Assess for
 - Presence of plaque
 - Presence of white spots or active dental decay
 - Presence of tooth defects
 - Fistulas, pus, ulceration, swelling of gum tissues or face
- Provide **education on brushing and diet** during examination.



Check for Normal Healthy Teeth



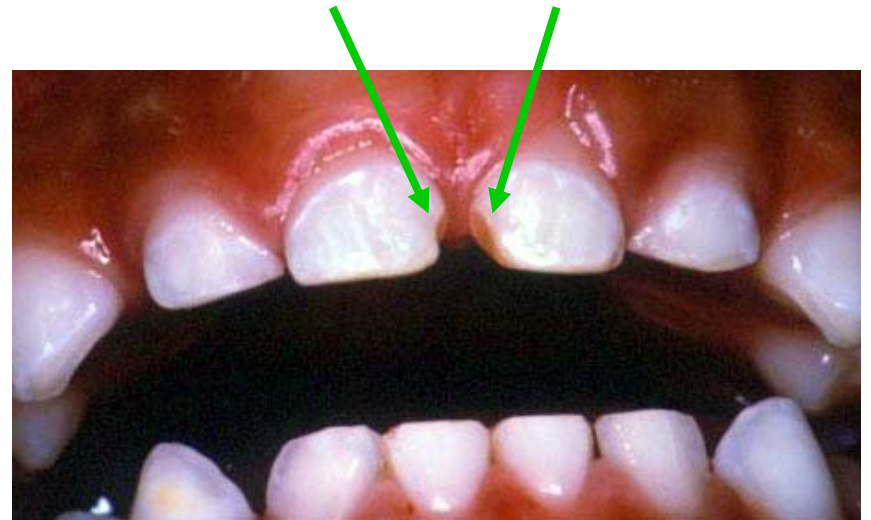
White spot lesions: The early stage of ECC



Check for Early Signs of Decay: White Spots



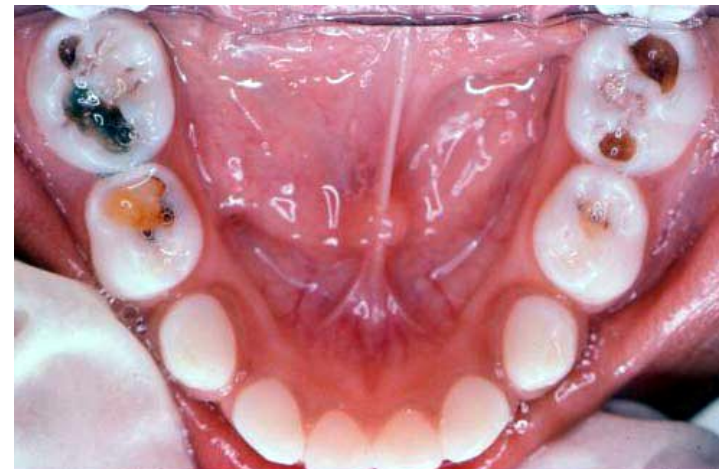
White spot lesions progress to cavitations



Check for Later Signs of Decay: Brown Spots



Advanced ECC





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Fluoride:

Influence on teeth and oral flora

- Promotes remineralization of enamel and can arrest or reverse early caries
- Decreases enamel solubility
- Inhibits the growth of cariogenic organisms, thus decreasing acid production
- Concentrated in dental plaque
- Action primarily topical even when given systemically

Early Childhood Caries

What is Fluoride Varnish (FV)?

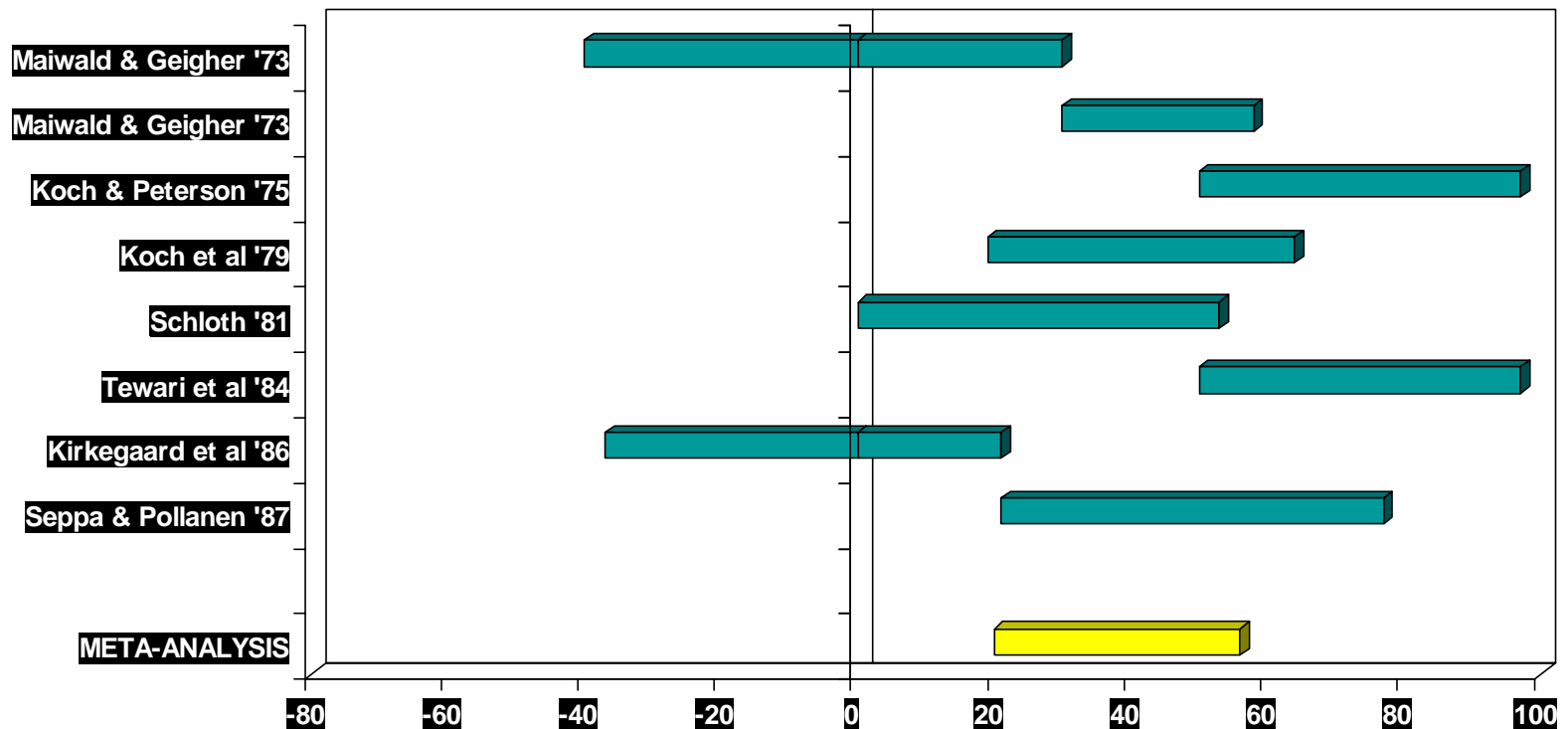
Most effective on early white spot lesions



- A lacquer-based product containing fluoride (NaF varnish containing 2.26% F) applied topically to the teeth
- Used to prevent tooth decay, AND can arrest and remineralize teeth damaged by the decay process, ie, white spot lesions.

Percent Caries Reduction

ABOUT 40% OVERALL REDUCTION



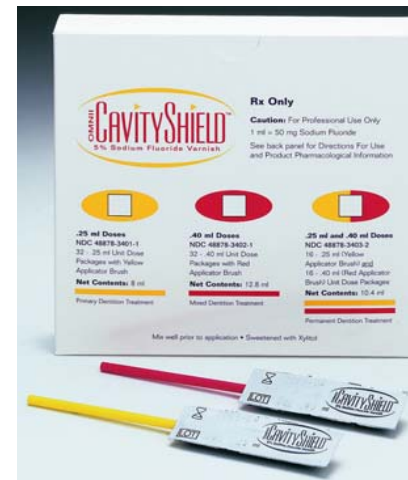
Helfenstein U, Steiner M . Fluoride varnishes (Duraphat): A meta-analysis. Community Dent Oral Epidemiol 1994; 22: 1-5.

Duraphat: FDA approved in 1995 as a desensitizing agent, not as a caries preventive agent

- Clinical trials completed in Europe and Scandinavia-not United States
- Use is considered **'off label'** as are most pediatric prescriptions
- What the AAP Committee on Drugs says about 'off label' drug use: **The word 'unapproved' is used to indicate lack of approval, not to imply disapproval or contraindication based on evidence of lack of safety or efficacy**

Fluoride Varnishes Available in the U.S.

- Duraphat® 5% NaF - 10 ml tube
- Duraflor® 5% NaF - 10 ml tube & unit dose
- Fluor Protector® 1% Difluorsilane
- CavityShield® 5% NaF - (unit-dose)



Product Safety



If 0.50 ml of v consumed this is 1 and is $\frac{1}{9}$ the pote dose for a 44lb (20 Clark et.al.

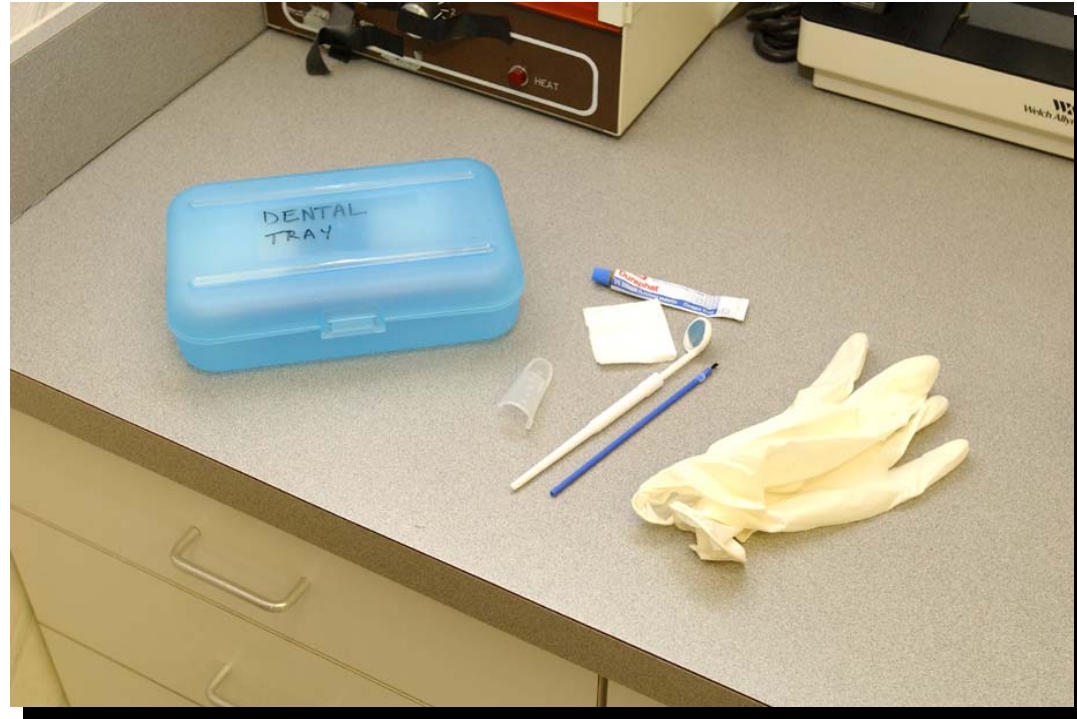
Helpful hints

- Easy to learn!
- Parent acceptance is excellent
- Position looking over the top of the head
- Parent provides restraint
- Start with a few patients having only anterior teeth
- Use a plastic finger splint under your glove to protect the finger and ease apprehension
- Put a drop on your gloved hand.



Fluoride Varnish Kit

- Gloves
- Mouth mirror
(optional but helpful)
- Gauze
- Varnish- 0.25ml
dose is more than
enough
- Finger splint



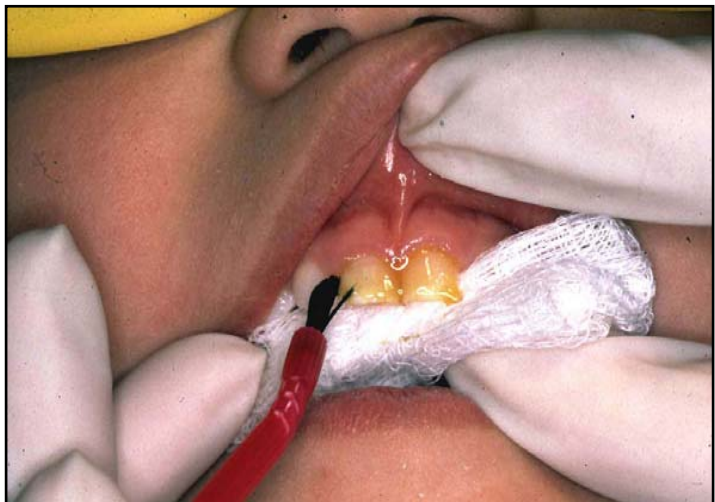
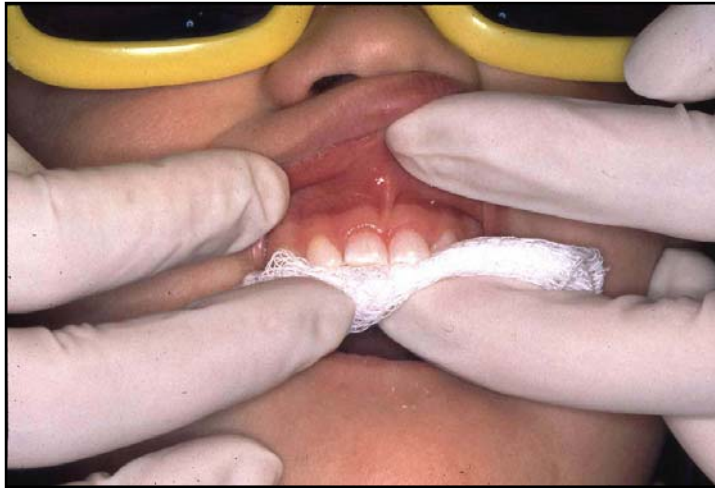


General Application Instructions



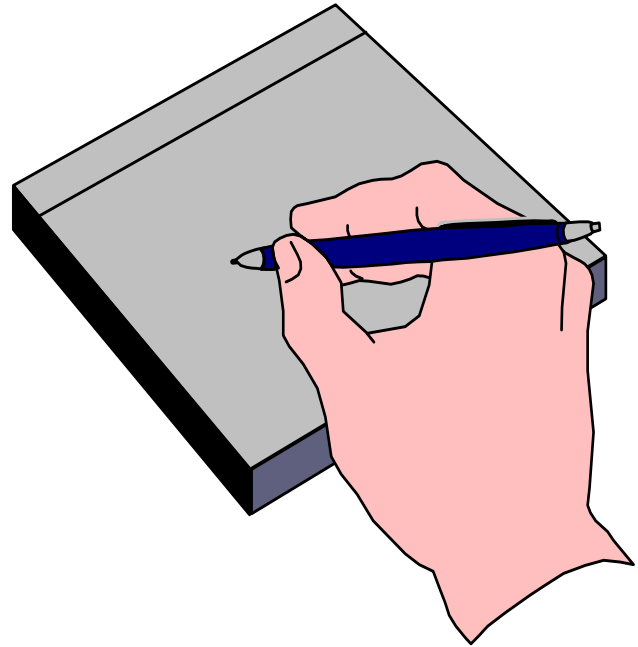
- Supplies: gloves, 2x2s, varnish (**0.25ml dose**), finger splint
- Put a drop of varnish on your off-hand glove, even in single dose format
- Dry the teeth in sections with a 2x2 gauze
- Apply a thin coat to all tooth surfaces
- **Paint a 'house', not a 'picture'**

Applying Fluoride Varnish



Post-application instructions

- Wait until next day to brush the varnish off the teeth
- Eat a soft diet the rest of the day
- These instructions are on the parent handouts
- NOTE, SOME PEOPLE RECOMMEND A FLUORIDE VARNISH CONSENT FORM. WE PROVIDE ENGLISH AND SPANISH LANGUAGE FORM IN YOUR PACKETS



Fluoride varnish: Provider FAQs

- Should I apply varnish if the child has fluoridated water? **YES**
- What dose should I order? **0.25ml** or **0.4ml** is **more than enough**
- What if the parent doesn't brush the varnish off the next day? **FINE**
- How long should the child wait to eat/drink after applying varnish? **NO WAIT**
- Where do I get supplies? **SEE OUR LIST**
- What is the best product to use? **Any single dose formulation; start with a tinted product before you use the clear/white products.**

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Anticipatory Guidance

What are the key things you want to educate caregivers about?

- Minimize risk of infection-caregiver's active carious lesions are a source of strep mutans
- Oral hygiene-at least 1 brushing a day with F toothpaste, more if possible.
- Reduce dietary sugars- frequency.
- Remove existing dental decay (referral to a dentist).
- Administer fluorides judiciously, only if you know water FI level.



Main points concerning dietary habits

- Sugar (in any form) is a risk factor
- Frequency of exposures is critical
- Do not put the child to bed with a bottle or sippy cup (unless it has water in it)
- Wean the child to a cup by the age of 1 (ADA recommendation)
- Do not dip pacifiers in any substance

Toothbrushing Recommendations

| Age | Toothbrushing Recommendations (CDC, 2001) |
|-----------|---|
| < 1 year | ~ Clean teeth with soft toothbrush or gauze; start using fluoridated toothpaste when first teeth erupt, about 6-8 months (a tiny smear) |
| 1-2 years | ~ Parent performs brushing with fluoridated toothpaste |
| 2-6 years | ~ Pea-sized amount of fluoride-containing toothpaste 2x/day ~ Parent performs or supervises |
| > 6 years | ~ Brush with fluoridated toothpaste 2x/day |



Why fluoridated toothpaste?

- Brushing with a non-fluoridated toothpaste does not have as much value as a fluoridated toothpaste.
- All people, but especially high risk children should get the benefit of fluoride.
- All Medicaid eligible children are at high risk for caries and will benefit from a fluoridated toothpaste.
- Tooth brushing with a fluoridated toothpaste complements the effects of fluoride varnish.
- Toothpaste is a topical form of fluoride and does not substitute for systemic forms such as fluoridated water or vitamins.
- Toothpaste is not intended for swallowing-parents need to monitor its usage.
- Early HeadStart programs requires fluoride toothpaste beginning in one year old class

Too much toothpaste!



This is more like it...



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Referral:

Establishment of Dental Home

What is a dental home?

When to refer?

- Refer high-risk children by 6 months.
- Refer all children by 1 year. Now, ADA, AAPD and AAP policy.



SAFETY NET PROVIDERS

- The Florida Dental Association sponsors statewide access to care programs for needy individuals through [Project: Dentists Care](#) (PDC). Project Dentists Care consists of volunteer dental team members who provide pro bono or reduced-fee services to children and adults who do not qualify for public assistance, but who have a substantial unmet need for dental care. Use the [PDC Resource guide](#), and search by county for your nearest PDC dentist or other safety net providers. This listing is updated frequently, thus we only provide the web address rather than a copy.
- Floridadental.org/public/outreach/documents/PDC_ResourceGuide.pdf

You Can Make a Difference!

- Institute oral health risk assessments into well-child visits.
- Provide **age specific patient education** regarding oral health; we give your samples.
- Provide appropriate prevention interventions (eg, advice about feeding practices, toothbrushing, fluoride varnish applications).
- **Document findings** and follow-up.
- Train office staff in oral health assessment.
- Identify dentists (pediatric/general) in your area who accept new patients/Medicaid patients. **We provide you with a list of safety net dental providers**
- Investigate fluoride content in area water supply. But **only provide supplements if you know fluoride level!**

Effective immediately, 4/15/2008, Medicaid will cover the application of fluoride varnish when provided to beneficiaries in a physician's office.

- Physicians should use **CPT code 99499 with modifier SC V07.31** (medically necessary service).
- The procedure includes an oral evaluation, risk assessment, **diagnosis code 521.01**, parental counseling, application of varnish and referral to a dentist.
- The fluoride varnish procedure may be billed once every 3 months up to age 42 months (**even though official announcement says 3 years of age**).
- Procedure code 99499 SC V07.31 reimburses **physicians, ARNPs, and PAs \$27.00**.
- The procedure may be submitted once per claim on the same date of service as other procedures.

More Billing Information

- When provided in a **county health department (CHD) or federally qualified health center (FQHC)**, fluoride varnish must be billed using the CHD or FQHC fee-for-service group provider number. The treating provider number must be entered in item 24J on the 1500 claim form.
- **Managed care plans are required to allow the additional provider type to be reimbursed for the service.**
- Fluoride varnish may also be applied to a child's teeth at the time of the Child Health Check-Up visit. It can be billed with procedure code 99499 SC, as noted above, in addition to the Child Health Check-Up visit code(s).
- If a child comes to the office for immunizations, the oral evaluation and fluoride varnish can be provided during the same visit and billed using 99499 SC V07.31 in addition to the immunization service.
- SCHIP and Medikids are eligible for this service.

More Billing Information

- This program was established to prevent early childhood caries and to refer the child to a dentist before severe decay and a toothache occurs. The caregiver should be informed that the child needs to be seen by a dentist for follow up treatment. **If a dental provider is not available in an area, physicians should notify the health plan (if the recipient is enrolled with a health plan that covers dental services) or area Medicaid office if the recipient is in a fee-for-service Medicaid or Medipass) that the child needs a dental visit.**

Medicaid Billing FAQs

- Can any of these procedures be delegated? **Under the direct supervision and responsibility of a licensed physician, ARNP, or PA, an RN, LPN, or a medical assistant may apply fluoride varnish and give parental education. However, only the physician, ARNP or PA may be reimbursed by Medicaid for the service.**
- What does 90 days mean? **You cannot be reimbursed more than once per every 90 day period.**
- The primary diagnosis code for dental caries is 521.01; the treatment code is **CPT code 99499 V07.31.**

So, how are we doing in Florida?

Billings May, 2008 thru June 30, 2009

- 103 billing providers
- 5293 unduplicated recipients
- 8433 Duplicated counts (total # of procedures)
- 29 counties
- Includes 85 individual physicians, 1 ARNP, 6 CHDs, 7 FQHCs, 1 General Hospital and 3 rural clinics
- Includes managed care patients and even in managed care REFORM counties.

SO, WHY AREN'T YOU PROVIDING THIS GREAT PREVENTIVE SERVICE TO YOUR PATIENTS??????

- I AM NOT SURE I WILL BE REIMBURSED!
- TOO LITTLE TIME, TOO MANY PATIENTS!
- TOO TOUGH TO IMPLEMENT!

What to do if you have billing and reimbursement questions?

- Please let Dr. Catalanotto know at 352-273-5970 or fcatalanotto@dental.ufl.edu
- At same time, contact your local Medicaid office <http://ahca.myflorida.com/Medicaid/Areas/index.shtml>.
- For managed care issues, contact Laura Rumph, the BMHC AHCA Administrator; email is RumphL@ahca.myflorida.com.

This Medicaid procedure requires:

- Oral screening performed by physician or ARNP or PA (we are exploring issue of RNs)
- Risk Assessment- But all Medicaid recipients are high risk
- Oral and written oral health education for the parent or caregiver
- Fluoride varnish application
- Reasonable attempt to make a referral to a dentist.
- Procedure may be done with a well child visit, sick visit, immunization visit or as a separate procedure
- Maximum of 12 procedures over 3 years, before 42nd month birthday
- Documentation in the record; we provide you with a sample encounter form

DISCLAIMER

- This program and the personnel involved do not have a financial association with any company that markets fluoride products or dental supplies.

ACKNOWLEDGEMENTS

- American Academy of Pediatrics; Oral Health Risk Assessment for Pediatricians and Other Child Health Professionals.
- American Academy of Family Physicians; Society for Teaching Family Medicine, Guidelines for Teaching Oral Health. www.smilesforlife2.org/home.html
- University of Kentucky, Division of Dental Public Health and Kentucky Department of Public Health, Oral Health Training Program
- Dr. Robert Selwitz, Dental Director, Duval County Health Department
- Dr. Amos Deinard, University of Minnesota College of Medicine
- Kelly Haupt, North Carolina Academy of Family Physicians, Into the Mouth of Babes Project

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- Federal- Health Resources Services Administration
- State- Florida Developmental Disabilities Council
- Foundation- Health Foundation of South Florida
- University of Florida College of Dentistry

QUESTIONS

- THANK YOU FOR YOUR COMMITMENT TO ORAL HEALTH
- FOR MORE INFORMATION, CONTACT DR. FRANK CATALANOTTO AT fcatalanotto@dental.ufl.edu or 352-273-5970

