Early Childhood Caries: Transmission and Prevention
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Maria Perno Goldie, RDH, BA, MS
Vice President, International Federation of Dental Hygienists

Member of the 2004-2006 fellowship of the California Health Care Foundation’s (CHCF) Health Care Leadership Program, administered by the Center for Health Professions at the University of California, San Francisco

mgoldie@sbcglobal.net
Oral Health: A Vital Part of Overall Health
www.first5oralhealth.org

• Special thanks to the following for some of the content contained in this presentation...

www.dentalhealthfoundation.org
Early Childhood Caries: A Crisis Among California Children, 0-5 years old

“Some children learn to live with the constant pain of rotting teeth and swollen gums. They go to sleep with it. They go to school with it. It affects their energy levels and even their self-esteem.” *

Just the Facts
Tooth decay is the single most prevalent disease of childhood. About one-third of California preschool children have untreated tooth decay.

It can cost $2,000-$5,000 to treat EACH CHILD with severe tooth decay. Many of these children must be hospitalized for dental treatment.

Untreated tooth decay can cause pain and infection which lead to problems with nutrition, growth, school readiness, and speech problems.

What can Health Professionals do???

- Provide an oral health assessment for babies and young children.

- Provide anticipatory guidance for parents on issues such as weaning, frequency of snacking, self-assessment at home and use of fluoride toothpaste for daily brushing.

- Evaluate the need for systemic and topical fluoride supplementation and antibacterials like xylitol and chlorhexidine.

- Provide a fluoride varnish treatment when appropriate, as fluoride can prevent and arrest early tooth decay.

Medical team members can refer children to the dentist as needed and dentists can make room in their practices for these referrals.

*Paraphrased from Jonathan Kozol, Savage Inequalities: Children in America’s Schools
ADA Statement On Early Childhood Caries

• http://www.ada.org/prof/resources/positions/statements/caries.asp
Promoting Awareness, Preventing Pain: Facts on Early Childhood Caries (ECC)

Early childhood caries (ECC) is an infectious disease that can start as soon as an infant’s teeth erupt. ECC can progress rapidly and may have a lasting detrimental impact on a child’s health and well-being. ECC is a serious public health problem.

In a child age 31 months or younger, the presence of one or more decayed teeth, missing teeth (resulting from caries), or filled tooth surfaces in any primary tooth is known as ECC. ECC is a multifactorial disease process initiated by bacteria (primarily Streptococcus mutans). When food is consumed, bacteria are able to break down carbohydrates, producing acids that cause mineral loss from teeth. This mineral loss results in cavities when the attack is prolonged and exceeds an individual’s resistance and ability to heal. Resistance and healing ability are determined partly by physiology and partly by health behaviors.

Because poor feeding and eating practices alone do not cause caries, terms such as "baby bottle tooth decay," "bottle mouth," and "training decay" are misleading. ECC is a term that better reflects the many factors involved in the disease process. ECC should be prevented to the extent possible and should be treated if it occurs.

Among children in the United States, the number of teeth with treated or untreated caries has declined substantially since the 1970s. However, ECC remains a significant problem for some children. Among children from families with incomes at or below the federal poverty level, the amount of caries in the primary teeth remained unchanged from the early 1970s to the early 1990s.

For children ages 2 to 5, 75 percent of caries is found in 8 percent of the population.

Children ages 2 to 5 who have not had a dental visit within the past 12 months are more likely to experience caries in primary teeth than children who have.

Mexican-American children ages 2 to 5 are more likely than their non-Hispanic black and non-Hispanic white peers to experience caries in primary teeth.

For children ages 2 to 5 from families with incomes above the federal poverty level, the likelihood of experiencing caries in primary teeth is significantly greater among those who do not eat breakfast daily or who eat fewer than five servings of fruit and vegetables per day than among those who do.

Children diagnosed with ECC may be highly susceptible to future caries development. Manifestations of ECC may go beyond pain and infection. ECC has the potential to affect speech and communication, nutrition, productivity, and quality of life, even into adulthood.

ECC has significant financial consequences. Many children with ECC require restorative treatment in an operating room under general anesthesia. State Medicaid expenditures for restorative dental care delivered under general anesthesia range from $1,500 to $2,000 per child per year.

Who Is at Risk for ECC?

What Are the Costs of ECC?

How Can ECC Risk Be Reduced?

The infectious nature of ECC, its early onset, and the potential of early interventions all point toward an emphasis on preventive oral health care.

Fluoride is safe and effective for preventing cavities in children. Community water fluoridation is a major factor responsible for the decline in caries during the second half of the 20th century. Fluoride toothpastes, varnishes, mouthrinses, gels, and dietary supplements can also help prevent caries.

Presenting ECC requires good dietary and oral hygiene practices and access to preventive and restorative dental care.

Programs directed toward families with young children, such as the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), can contribute to the prevention of ECC. Other programs such as Head Start can also help prevent ECC.

Nutrition education and counseling for the purpose of preventing ECC aims to teach parents the importance of reducing their infants' or child's high-frequency exposures to foods containing sugar.

The Early and Periodic Screening, Diagnosis and Treatment (EPSDT) component of the Medicaid program could be a powerful tool for identifying and treating ECC early. However, Healthy People 2020 baseline data indicate that only 20 percent of children eligible for dental services under Medicaid/EPSDT received a single preventive dental service.

As part of any routine health supervision visit, primary care health professionals should perform an oral health screening that includes the lips, tongue, teeth, gums, interior surfaces of the cheeks, and roof of the mouth.

Health professionals can help ensure that infants and young children receive the care they need by referring infants to a dentist for an oral examination within 6 months of the eruption of the first primary tooth, and no later than age 12 months, and by establishing the child's dental home.

Health professionals can provide parents with anticipatory guidance on oral development, caries transmission, peak tooth cleaning, feeding and eating practices, and fluoride. Since caries is an infectious disease that may be transmitted from the parent, especially the mother, to an infant or child, anticipatory guidance on oral health should also be provided to pregnant women, new mothers, and other caregivers.

References


What Can Health Professionals Do?

In infants and young children, oral health education can be an effective intervention to prevent ECC. Health professionals can provide anticipatory guidance to parents, including the importance of the role of diet in the prevention of ECC. They can also provide age-appropriate oral hygiene education and encourage regular dental visits for children. Additionally, health professionals can refer eligible children to dental services provided through the Medicaid program or other community health programs.

This fact sheet was produced by John Bonomo and Karen Halk of the National Maternal and Child Oral Health Resource Center, in collaboration with the National Maternal and Child Oral Health Resource Center. This fact sheet is intended for use as a resource to help health professionals and their clients understand ECC and its prevention. It is not intended to replace professional advice or to be used as a substitute for the National Maternal and Child Oral Health Resource Center.
• http://www.PDFs/EarlyChild
Overview of ECC
What is ECC?

- Any tooth decay, including extractions and fillings from previous decay, in the primary dentition
Severe ECC

- Distinctive pattern of tooth decay that begins on upper primary teeth
- Rapidly progressing to other teeth as they erupt
More about ECC

- Most prevalent chronic disease of childhood
- 5 times more prevalent than asthma
- 7 times more prevalent than hay fever
Is it a problem in California and Around the World?

• Yes!
ECC in California

• California’s children fall well below the nation in oral health

• About 1/3 of preschoolers and almost 70% of children in grades K-3 have experienced tooth decay.
Who gets ECC?

- More prevalent among families with lower socio-economic status
- More prevalent in certain cultures
Who gets ECC?

- More prevalent among children with disabilities and other special needs
Who Are Children with Disabilities and Other Special Needs?

• Any child who has difficulty accessing dental care because of complicated medical, physical, social, or psychological situations.
Children with Disabilities and Other Special Needs

- Sweetened medications
- Reduced salivary flow
- Restricted diets
- Difficulties brushing
- Many competing health needs and problems
Special Care

The Pacific Center for Special Care has a series of online modules with additional information on oral health and special needs. Registration for these modules is complimentary to participants in the First 5 California Oral Health Education and Training Project. Visit the following website for more information on these modules and to register to view them.

www.pacificspecialcare.org

For more information on children with disabilities and other special needs and their home care, the following is a good website:

http://www.specializedcare.com
General Principles for Working with Children with Disabilities and Other Special Needs

For most children, once the dentist understands the child's condition, actual treatment doesn't vary from children without those conditions. Practitioners should not turn away from treating children with special needs because they are not familiar with a medical diagnosis, such as cerebral palsy, heart disease, leukemia or multiple sclerosis. Most children with disabilities or medical conditions can and should receive normal oral health care and can be treated easily in a dental office. Most children can be treated in a normal or near normal manner in a dentist office by following a few simple steps.

Preparing to Treat the Child
Some simple steps to follow in preparing to treat a child with special needs include:

- **Get a good medical history from the parent or caregiver.** They can tell you most of the things you need to know about the diagnosis and how to work with their child.

- **Consult a reference book on general dental implications of medical disease.** One such text with good summaries of many medical conditions is: Dental Management of the Medically Compromised Patient, James Little, et. al. Sixth Edition, 2002


- **Consult the young patient's physician.** They can tell you if there are any additional considerations.
Who gets ECC?

- ECC can happen in any family!
Costs of ECC

- $2,000-$5,000 for treatment
- More if hospitalized
Treatment of ECC

- 40-50% of children treated with severe ECC have new decay within 4-12 months

- We must treat the infection!
The effects of ECC

• Pain
• Infection
• Self-esteem
Pain

- Children learn to live with the pain
- Missed preschool and school days
- Inability to concentrate; impairs school readiness
- Can affect sleep and overall health and well-being
Infection

- Failure to thrive and delayed growth patterns
Self-esteem

- Stainless steel crowns
- Unattractive smiles
Primary teeth are important!

- Eating and nutrition
- Holding Space
- Talking
And Smiling!
What Causes ECC and How to Prevent It
ECC is an infectious, transmissible disease

- Mutans streptococci, lactobacilli, and other acid-producing bacteria
- Transmission both vertical and horizontal
Colonization

- Can begin even before the eruption of teeth
Genetic Link

- Some children may be genetically predisposed to ECC
Acidogenic Bacteria

- Acidogenic bacteria produce acids from carbohydrates
- Demineralization
- Visible tooth decay
White Spot Lesions

- The first visible sign of tooth decay
- Reversible
Remineralization

• Calcium and phosphate in saliva can “heal” early tooth decay
• Enhanced by fluoride
• Stronger than before
• Ongoing process
The Caries Balance

<table>
<thead>
<tr>
<th>Pathological Factors</th>
<th>Protective Factors</th>
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<tbody>
<tr>
<td>Decay causing bacteria</td>
<td>Fluoride and remineralization</td>
</tr>
<tr>
<td>Frequency of fermentable carbohydrate ingestion</td>
<td>Anti-bacterials such as chlorhexidine and xylitol</td>
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<tr>
<td>Reduced salivary function</td>
<td>Saliva and its components</td>
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<td></td>
<td>Dental Sealants</td>
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</tbody>
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Tooth Decay

No Tooth Decay
Treatment of Tooth Decay

• “Treat” enamel lesions with fluoride and antimicrobials until lesion is into the dentin.

• Treat with traditional methods only when lesion is into the dentin.
Children with Disabilities and Other Special Needs

- Reduced saliva flow
- Sweetened medications
- Competing medical needs
Can ECC be Prevented?

Tooth Decay

No Tooth Decay
Yes!

- Interventions with pregnant women and mothers of infants
- Interventions with babies and young children
http://www.cdafoundation.org/journal

Excellent Resource!!
Fluoride

- Inhibits demineralization
- Enhances remineralization
- Inhibits plaque bacteria
Water Fluoridation

• About 30% of Californian’s have fluoridated drinking water
Fluoride Supplement Dosage Schedule—1994
Approved by the American Dental Association, American Academy of Pediatrics and American Academy of Pediatric Dentistry

<table>
<thead>
<tr>
<th>Age</th>
<th>Fluoride Ion Level in Drinking Water (ppm)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth-6 months</td>
<td>None</td>
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<tr>
<td>6 months-3 years</td>
<td>None</td>
</tr>
<tr>
<td>3-6 years</td>
<td>0.5 mg/day</td>
</tr>
<tr>
<td>6-16 years</td>
<td>1.0 mg/day</td>
</tr>
</tbody>
</table>

= 1.0 ppm = 1 mg/liter
***2.2 mg sodium fluoride contains 1 mg fluoride ion.

Sources:


Important Considerations When Using Dosage Schedule:
- If fluoride level is unknown, drinking water should be tested for fluoride content before supplements are prescribed. For testing of fluoride content, contact the local or state health department.
- All sources of fluoride should be evaluated with a thorough fluoride history.
- Patient exposure to multiple water sources can make proper prescribing complex.
- Ingestion of higher than recommended levels of fluoride by children has been associated with an increase in mild dental fluorosis in developing, unerupted teeth.

Fluoride supplements require long-term compliance on a daily basis.
Fluoride Toothpaste

• Encourage daily use in the morning and before bed

• A small pea-sized dab is the appropriate amount

• Apply toothpaste across width, not length of toothbrush
Fluoride Mouthrinses

- Not for babies and young children
- Child must be able to effectively spit
Fluoride Varnish

• Professionally applied topical fluoride treatment

• Safe for babies and young children
Traditional 5% NaF varnishes
VANISH™ 5% White Varnish

Replaced the colophony resin (the yellow color-"pine sap") with a modified rosin that is neutral in flavor
• Two flavors available at launch, Cherry and Melon
• A new solvent system combined with a finer rosin has significantly enhanced the flow and smoothness of the application
• In vitro studies has found that Vanish releases 23% more F in 24 hours verses the nearest current 5% NaF brand
More on Fluoride Varnish

• Use 3 times in a 2-week period for remineralization of white spot lesions

• Apply 3-4 times a year for high-risk babies and young children
Sealants
Limiting Fermentable Carbohydrates

• Sugary foods and drinks

• Simple carbohydrates like white crackers

• Need to limit both frequency and total sugar intake
Limit Total Sugar Intake

• Dentistry does not practice in a vacuum

• Increased obesity and diabetes among children requires limiting both frequency and total sugar intake
Weaning

- Recommend using a cup at 6 months of age
- Consider weaning from bottle at 12-14 months of age
- Don’t let baby sleep with the bottle or walk around with a bottle or sippy cup all day
Policy on breast-feeding

Originating Committee
Clinical Affairs Committee – Oral Health and Prevention in Children Subcommittee

Review Council
Council on Clinical Affairs

 Adopted
1983

Revised
1990, 1994, 2000

The American Academy of Pediatric Dentistry (AAPD) endorses the American Academy of Pediatrics’ (AAP) policy statement on breast-feeding and the use of human milk. The AAP statement concludes that “breast-feeding ensures the best possible health as well as the best development and psychosocial outcomes for the infant.”

The potential for early childhood caries exists for the breast-fed child and is related to the extended and repetitive feeding times with prolonged exposure of teeth to fermentable carbohydrate without appropriate oral hygiene measures.

The AAPD recognizes the need for further scientific research regarding the effects of breast-feeding and the consumption of human milk on dentofacial growth and oral health.

References
Policy on early childhood caries (ECC): unique challenges and treatment options

Originating Council
Council on Clinical Affairs

Adopted
2000

Purpose
To promote appropriate, quality oral health care for children with early childhood caries, the American Academy of Pediatric Dentistry (AAPD) must educate the health community and society about the unique challenges and treatment options of this disease. This policy will not attempt to duplicate information found in the AAPD’s Guideline on Infant Oral Health Care (see page 47).

Background
For the purpose of this document, early childhood caries (ECC) is defined as “the presence of 1 or more decayed (noncavitated or cavitated lesions), missing (due to caries) or filled (tooth surfaces) in any primary tooth in a child 71 months of age or younger.” In children younger than 3 years of age, any sign of smooth-surface caries is indicative of severe early childhood caries (S-ECC). From ages 3 through 5, 1 or more cavitated, missing (due to caries), or filled smooth surfaces in primary maxillary anterior teeth, or a decayed, missing, or filled score of ≥2 (age 3), ≥5 (age 4) or ≥6 (age 5) surfaces constitutes S-ECC.

ECC, a serious public health problem, is prevalent in low socioeconomic groups but also found in the general population. It can be a particularly virulent form of caries, beginning soon after dental eruption, developing on smooth surfaces, progressing rapidly and having a lasting detrimental impact on the dentition. Children experiencing caries as infants or toddlers have a much greater probability of subsequent caries in both the primary and permanent dentitions. Not only does ECC affect teeth, but consequences of this disease may lead to more widespread health issues. Infants with ECC grow at a slower pace than caries-free infants. Some young children with ECC may be severely underweight because of associated pain and the disconfirmation to eat.

Prevention of ECC begins with intervention in the prenatal and perinatal periods. Women should be advised to optimize nutrition during the third trimester and the infant’s first year, when enamel is undergoing maturation. Hypoplasia is common in children with low birthweight or systemic illness in the neonatal period. There is considerable presumptive evidence that malnutrition/undernutrition during the perinatal period causes hypoplasia. A consistent association exists between clinical hypoplasia and ECC. Cariesogenic bacteria (specifically mutans streptococcus) may be transmitted to the child, decreasing the mother’s primary caregiver’s mutans streptococcus levels may decrease the child’s risk of developing ECC.

Frequent bottle feeding at night and breast-feeding upon demand also are associated with ECC. Because poor feeding practices alone will not cause caries, “baby bottle tooth decay,” “bottle mouth” and “nursing decay” are misleading terms. ECC is a term that better reflects the multifactorial etiologic process.

When very young children have not been the beneficiaries of adequate preventive care and subsequently develop ECC, therapeutic intervention should be provided by a practitioner with the training, experience and expertise to manage both the child and the disease process. Because of the aggressive nature of ECC, treatment should be definitive yet specific for each individual patient. Conventional restorative approaches may arrest the disease. Areas of decalcification and hypoplasia can rapidly develop cavitation. The use of anti-caries agents may reduce the risk of development and progression of caries. Alternative restorative treatment (ART) techniques, using materials such as glass ionomers that release fluoride, hold promise as both preventive and therapeutic approaches. Aggressive therapy, including the placement of stainless steel crowns, may be necessary to arrest the carious process. Stainless steel crowns decrease the number of tooth surfaces at risk for new or secondary caries and are less likely than other restorations to require retreatment. Low levels of compliance with follow-up care and a high rate of children requiring additional treatment can also influence a practitioner’s decision for more aggressive restorative approaches to ECC.

The extent of the disease process as well as the patient’s developmental level and comprehension skills affect the practitioner’s behavior management approaches. To perform treatment effectively and efficiently while instilling a positive dental attitude, the practitioner caring for a child with ECC often must employ advanced behavior management techniques. These may include medical immobilization and/or sedation or general anesthesia. The success of restorations may be influenced by the child’s response to the chosen behavior management technique. Although general anesthesia
ensures optimal conditions to perform restorative procedures, it can significantly add to the cost of care. General anesthesia may, under certain circumstances, offer a cost-saving alternative to sedation for children with ECC.4

Policy statement
The AAPD recognizes the unique and virulent nature of ECC. Dentists who diagnose ECC should either provide therapy or refer the patient to an appropriately trained individual for treatment. Immediate intervention is necessary to prevent further dental destruction as well as more widespread health problems. Because children who experience ECC are at greater risk for subsequent caries development, aggressive preventive and therapeutic measures such as ART and full crown coverage are often necessary. The dental care provider must assess the patient’s developmental level and comprehension skills, as well as the extent of the disease process, to determine the need for advanced behavior management techniques such as medical immobilization, sedation or general anesthesia.

References
Summary

For all babies and young children

• Water fluoridation
• Daily use of fluoride toothpaste in the morning and at bedtime
• Limit sugar and other simple carbohydrates

For high-risk patients

• Fluoride Varnish
• Consider anti-microbials for mothers and older children
• Fluoride Mouthrinse when child can spit
• Dental Sealants
Pregnant Women and Mothers

- Modify mother’s dental flora during the period from birth until the child is 2 years old
- Use antimicrobials like chlorhexidine and xylitol
Chlorhexidine Therapy

- 0.12% chlorhexidine gluconate used as a prescription mouthrinse
- 10 ml daily for 1 week per month, for 1 year
- Some don’t like the taste and mild staining
Xylitol Therapy

• 5-10 grams daily

• Look for xylitol listed as first ingredient

• Carefree Koolerz has 1.6 grams per piece, more than any other over-the-counter brand
Xylitol Research

• 6-year study in Finland

• Mothers chewed xylitol gum during first 2 years of child’s life

• Led to lower levels of caries in child
Visit the Dentist During Pregnancy

• Assess the mother’s caries risk

• Recommend mother’s use of chlorhexidine or xylitol as appropriate, after the baby is born
Oral Health Assessment for Babies and Young Children
Policy Statements on Oral Health Assessment for Babies and Young Children

American Academy of Pediatrics (AAP)  May 2003

Recommendations:
(for full policy see  http://www.aap.org/policy/S040137.html)

1. Early childhood caries is an infectious and preventable disease that is vertically transmitted from mothers or other intimate caregivers to infants. All health care professionals who serve mothers and infants should integrate parent and caregiver education into their practices that instruct effective methods of prevention of early childhood caries (ECC).

2. The infectious and transmissible nature of bacteria that cause ECC and methods of oral health risk assessment, anticipatory guidance, and early intervention should be included in the curriculum of all pediatric medical residency programs and postgraduate continuing medical education curricula at an appropriate time.

3. Every child should begin to receive oral health risk assessments by 6 months of age from a pediatrician or a qualified pediatric health care professional.

4. 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 ECC.

5. Infants identified as having significant risk of caries or assessed to be within one of the risk groups listed in this statement should be entered into an aggressive anticipatory guidance and intervention program provided by a dentist between 6-12 months of age.

6. Pediatricians should support the concept of the identification of a dental home as an ideal for all children in the early toddler years.

• www.aap.org/policy/S040137.html
Supply List

- 2X2 gauze
- Direct light source
- Baby/child toothbrush
- Fluoride Varnish
- Vinyl/latex gloves
- Optional Items
Step 1: Interview and AG

- Assess water fluoridation/systemic fluoride supplements
- Home care and use of fluoride toothpaste
- Dental home
- Family history of caries
- Weaning and other dietary habits
Building Rapport

• Play and talk with child
• Use toys or a baby toothbrush for distraction
• Use staff to occupy child during the interview
Step 2: Knee to Knee Position
Expect Crying

The child may cry, and . . . you can see the teeth clearly
Step 3: Toothbrush Prophy

- Remove plaque so you can see teeth clearly
- Discuss home care
- Reinforce the use of a small dab of fluoride toothpaste
Cleaning the Teeth at Home

• Begins when first tooth erupts

• Let older children and caregivers practice while you watch
Step 4: Oral Assessment

- Presence of thick plaque
- Chalky white spots, brown spots, or obvious cavities
- Tooth defects
- Abscesses
White Spots
Tooth Decay
Severe ECC
Lift the Lip

• Show caregivers any signs of tooth decay
• Teach them to “lift the lip” monthly to check for chalky white spots or brown spots
Risk Assessment

Low risk
- No carious lesions
- No white spot lesions
- No visible plaque

High risk
- White spot lesions
- Carious lesions
- Visible plaque
- Family history
- Impaired saliva composition or flow
- Frequent exposures to fermentable carbs
Step 5: Apply Fluoride Varnish
Fluoride Varnish Procedure

- Dry teeth lightly with a gauze square
- Open the packet of varnish
- Stir with applicator
- “Paint” the varnish on the child’s teeth
- “Less is More”
Fluoride Varnish Procedure

- Begin with lower teeth. Do the outsides of all teeth and then the insides.
- Repeat with upper arch
- Develop a pattern that works for you
Fluoride Varnish Procedure

- When in doubt, follow the manufacturer’s instructions
Parent Instructions

• Mild yellow or brownish tint that will disappear when the teeth are brushed
• Don’t brush until the next day for optimal benefit
All done!

- Raise the child back into their caregiver’s arms for comforting
- Most children stop crying at this point
- Give them a toothbrush or toy to play with while you talk with the caregiver.
Step 6: Summarize and AG

• Summarize findings
• Follow-up and referral
• Anticipatory guidance and home care
Risk-Based Anticipatory Guidance

For All Babies and Young Children

- Water fluoridation
- Daily use of fluoride toothpaste
- Limit sugar and other fermentable carbohydrates

For High-Risk Patients

- Fluoride Varnish
- Consider antibacterials like chlorhexidine and xylitol gum for older children
Tips for Providing Anticipatory Guidance
Small Steps

• Choose 1-2 key messages
Remain Positive
Culturally Appropriate
Tips for Providing Anticipatory Guidance

- Respect
- Multiple learning methods
- Ask open and closed ended questions
- Listen
- Sensitivity to culture, language, race, education and SES
- Remain non-judgmental and friendly
- Small steps
- Positive reinforcement
Multiple Triggers Over Time

• Changes in health behavior do not happen overnight

• It often takes many triggers, delivered over a period of time, in combination with a person’s own experiences and values to change health behavior
Documentation
Referral
ART

• Minimal cavity preparation

• Fluoride releasing material

• “Medicine” to slow the raging disease

• Learn more at www.First5OralHealth.org
Risk-based recall

- Children at high risk for tooth decay need to be seen more often
Reinforce Home Care

• It’s what families do at home that really counts!
Follow-up Visits

- Children who have received infant oral health assessments often make excellent future dental patients
6 Steps

• Interview/AG
• Position the child
• Toothbrush Prophy
• Oral Assessment
• Fluoride Varnish Treatment
• Summarize and Review AG
Oral Health Assessment: 6 Steps for the Dental Team

1. **Interview/Anticipatory Guidance**
   - **Elements of the Interview**
     - Greet child and caregiver
     - Fraise the parent and child
     - Overview and expectations of the visit
     - Risk Assessment
     - Use a Risk Assessment Tool (examples in packet) and check the health history to see if the child is taking any medications that might affect salivary components or flow

   As the caregiver answers the questions, the provider offers appropriate AG.

   **AG is provided throughout the 6 Steps.**

2. **Position the child**
   - Assume the knee to knee position with the child sitting in the caregivers lap and lowering the child’s head onto your lap.

3. **Toothbrush Prophylaxis**
   - Brush the child’s teeth, showing the caregiver how to do the same at home.
   - This is a good time to remind the family about the importance of using a small dab of fluoride toothpaste daily.

4. **Oral Assessment**
   - Give the child a toothbrush or toy (distraction) while you “count” the child’s teeth aloud, using the toothbrush handle as a mouth prop. Assess the child’s oral condition, looking for chalky white spots, obvious tooth decay, tooth defects, or other abnormalities.

   Based on your interview with the caregiver and your assessment, decide if the child is at low or high risk for tooth decay. (See “Caries Risk Assessment Chart”)

5. **Fluoride Varnish Treatment**
   - Provide a full mouth fluoride varnish treatment if the child is at high risk for tooth decay.

6. **Summarize and Review Anticipatory Guidance and Counseling**
   - Raise the child back up into the caregiver’s lap and discuss your findings and recommendations for follow-up, anticipatory guidance and home care.
Oral Health Assessment: 6 Steps for the Medical Team

1. **Interview/Anticipatory Guidance**
   Ask the following questions:
   - Does your family drink fluoridated water or do your children take fluoride supplements?
   - Have you started cleaning your child’s teeth with a fluoride toothpaste?
   - Have you taken your child to a dentist yet? When was the last visit?
   - Have you or any of your other children had many cavities?
   - Does your child take a bottle or sippy cup to bed at night or frequently walk around with a bottle or sippy cup throughout the day?
   - How often does your child snack throughout the day? On what?

   As the caregiver answers the questions, the provider offers appropriate AG.

   AG is provided throughout the 6 Steps.

2. **Position the child**
   Assume the knee-to-knee position with the child sitting in the caregiver’s lap and lowering the child’s head onto your lap. Some medical team members may prefer having the child lying on one end of the exam table, positioning themselves behind the child’s head, or just sitting on the exam table.

3. **Toothbrush Prophylaxis (optional)**
   Demonstrate how to brush a child’s tooth, showing the caregiver how to do the same at home. This is a good time to remind the family about the importance of using a small dab of fluoride toothpaste daily.

4. **Oral Assessment**
   “Count” the child’s teeth aloud, using a toothbrush or tongue depressor to keep the mouth open and to avoid getting bit. Assess the child’s oral condition, looking for chalky white spots, obvious tooth decay, or tooth defects.

   Based on your interview with the caregiver and your assessment, decide if the child is at low or high risk for tooth decay. (See “Caries Risk Assessment Chart”)

5. **Fluoride Varnish Treatment**
   Provide a fluoride varnish treatment if the child is at high risk for tooth decay. Apply the varnish to all surfaces of all the teeth.

6. **Summarize and Review Anticipatory Guidance and Counseling**
   Discuss your findings and recommendations for follow-up, anticipatory guidance and home care.
Tips for Providing Anticipatory Guidance

• **Respect** for the caregiver as an adult with knowledge, life experience, viewpoints and values

• **Use multiple learning methods** including discussion, pamphlets, demonstrations, and active participation (let the caregiver practice brushing the child’s teeth while you watch)

• **Ask** both open and closed ended questions. Examples would be “Have you started cleaning your child’s teeth yet?” and “Can you think of a good way to work daily brushing with a fluoride toothpaste into your daily routine?”

• **Listen** to the caregiver and ask the caregiver for ideas about what he/she thinks might work on issues like weaning, daily brushing, and diet modification.

• Use culturally and linguistically **appropriate** methods of communication in working with patients of diverse ethnic, linguistic, cultural, and socio-economic backgrounds and abilities when addressing their oral health needs and behaviors.

• If you remain **non-judgemental and friendly** towards both the child and the caregiver, they will be more likely to trust you and listen to your advice.

• **Small steps** involves choosing 1-2 changes that you want the family to focus on.

• **Positive reinforcement** lets the caregiver know that you are on their side. Keep in mind that health behavior change is a process, not a single event. It usually takes many triggers over time to change health behavior. Try not to get discouraged, but consider each counseling visit as getting one step closer to change.

*The most important tool you have is your own genuine concern and caring for the children and their families.*
Tips for Managing Child Behavior

Voice Control
Use a soft voice, pleasant tone, and speak slowly to influence and direct the patient’s behavior.

Nonverbal Communication
This includes the use of appropriate touching, paying attention to your own body language, and using pleasant facial expressions.

Tell-show-do
This involves verbal explanations of what you plan to do, demonstrations of the noise, smells, visual, and tactile aspects of what is coming next, and then proceeding, trying not to deviate from the explanation and demonstration.

Positive Reinforcement
Give positive feedback at each step to reward desired behaviors. Assist children in reaching their full potential by catching them doing something right.

Distraction
This is the use of toys, other props, and staff to distract the child with talk, or even silliness, while you work.

Most children with disabilities and other special needs can be managed using traditional behavior management techniques. Keep in mind that some children with autism spectrum disorders may be very sensitive to sensory stimuli and touch. They may need to be approached very slowly using low light and in quiet settings. They do better when things are predictable and routine. This includes putting them in the same dental chair and with the same dental assistant each time they visit the office.

“Behavior management is as much an art form as it is a science.”

Adapted from “Clinical Guideline on Behavior Management,” Clinical Affairs Committee, AAPD.
**RISK ASSESSMENT**

<table>
<thead>
<tr>
<th>Health History</th>
<th>Yes</th>
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</thead>
<tbody>
<tr>
<td>Did birthmother have any problems during pregnancy?</td>
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<tr>
<td>Was child premature?</td>
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<tr>
<td>Was child’s birth weight low?</td>
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<tr>
<td>Were there any complications at birth?</td>
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<tr>
<td>Has your infant been ill?</td>
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<tr>
<td>Is your child on any medications?</td>
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<tr>
<th>Diet and Nutrition</th>
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<tbody>
<tr>
<td>Is your child breastfed?</td>
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<td></td>
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<tr>
<td>Does your child sleep with a bottle?</td>
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<tr>
<td>Does your child drink from a cup?</td>
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<tr>
<td>Is your child on a special diet?</td>
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<table>
<thead>
<tr>
<th>Fluoride Adequacy</th>
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<tbody>
<tr>
<td>Do you know the fluoride level of your water?</td>
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<tr>
<td>Do you have well water?</td>
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<td></td>
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<tr>
<td>If yes, has the water been tested?</td>
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<tr>
<td>Do you use bottled water?</td>
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<tr>
<td>Do you use a water conditioner or filtration system?</td>
<td></td>
<td></td>
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<tr>
<td>If yes, please list</td>
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<tr>
<td>Do you use a fluoridated toothpaste for your child?</td>
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<table>
<thead>
<tr>
<th>Oral Habits</th>
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<tbody>
<tr>
<td>Does your child use a pacifier?</td>
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<td></td>
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<tr>
<td>Does your child suck a thumb or fingers?</td>
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<td></td>
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<tr>
<td>Does your child grind teeth day or night?</td>
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<thead>
<tr>
<th>Injury Prevention</th>
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<td>Is your child walking?</td>
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<tr>
<td>Is your home childproofed?</td>
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<tr>
<td>Do you use a car seat for your child?</td>
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<tr>
<td>Has your child had an oral/facial injury?</td>
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<th>Oral Development</th>
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<td>Does your child have any teeth?</td>
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<td>Child’s age (in months) when first tooth erupted:</td>
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<tr>
<td>Has your child experienced teething problems?</td>
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<tr>
<td>Have you noticed any oral problems in your child?</td>
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<thead>
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<tbody>
<tr>
<td>Do you clean your child’s teeth / gums?</td>
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<tr>
<td>Do you use a toothbrush to clean your child’s teeth?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you use toothpaste to clean your child’s teeth?</td>
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</table>
Oral Health History Questionnaire

Parents and caregivers – use this form to document the oral health of each of your children. This will be part of your child’s health record.

Parent/Guardian’s Name ____________________________ Child’s Age ______

Child’s Name ____________________________

Date ______________

Yes  No  Does your family drink fluoridated water or do your children take fluoride supplements? (To find out if you reside in a fluoridated area, ask your health care provider or call your local water district.)

Yes  No  Does your child use a toothpaste with fluoride in it?

Yes  No  Do you help your child under six years with toothbrushing?

Yes  No  Have you or your children ever had a bad dental experience?

Yes  No  Have any of your children ever had cavities?

Yes  No  Does your child complain of mouth pain?

Yes  No  Does your child take a bottle to bed?

Yes  No  Does your child walk around with a bottle or cup?

_______  How many times does your child snack each day?

_______  How many bottles does your child have each day?

Health care providers and well-child professionals may photocopy this age-specific prevention checklist and distribute it to parents/caregivers.

Adapted from U.S. Public Health Service/Indian Health Service.  

September 1999
I will take care of my teeth and myself to help my baby be healthy.

Today I will:
- Start flossing my teeth every day.
- Cut down on sweet drinks and snack foods.
- Make a dental appointment.

My dental visit is on:
- Date: 
- Time: 
- Dentist’s Name: 
- Location: 
- Phone: 

If you need help finding a dentist:
- Check with your AHCCCS health plan to help you locate a dentist or discuss your dental benefits.
- Ask your family doctor.
- Ask at Head Start or WIC.
- Ask a friend.

A guide to oral health during pregnancy.

How does your oral health affect your baby?

Did you know that your teeth and gum problems can affect your baby?

Your baby could be born early, too small, or both if you have gum problems.

- See a dentist as soon as you know you are pregnant. Gum disease can be worse during pregnancy. Gum disease can cause red, sore, and bleeding gums. But you can have gum disease and have no signs. Gum disease is also called periodontal (pair-ee-oh-DON-tal) disease.

Germs passed from your mouth can cause cavities in your baby’s mouth.

- Get your teeth checked and cleaned twice a year. This helps cut down on germs in your mouth. If you don’t have dental insurance, call ACTION (1-866-340-4357). They can tell you about dental care in your area.

So protect your baby!

Keep your mouth healthy.

- Drink plenty of water with fluoride.
- Ask your doctor or dentist if your tap water has fluoride. Fluoride is a safe, easy way to protect your teeth from tooth decay and help heal early decay. If you buy bottled water, check the label for fluoride.
- Brush your teeth and gums with fluoride toothpaste.
- Floss your teeth every day.
- Eat three good meals a day. Limit snacking between meals.

For more information, call 1-800-232-1676 or visit www.azdhs.gov. If your child is on AHCCCS or KidsCare, dental visits are covered.
Baby Teeth are Important!

I will do these things to help my baby’s teeth:

☐ Avoid sharing germs (spoons, straws, licking pacifiers) so I don’t pass cavity germs to my baby. Kissing is OK.
☐ Wipe teeth and gums after every feeding and especially before bed.
☐ Not put my baby to bed with a bottle.
☐ Look for changes in tooth color. Healthy teeth should be all one color.
☐ Make a dental visit for my baby and me.

My baby’s firsts:

First smile: __________ (Goal is before age 1.)
First tooth: __________ (Goal is before age 1.)
Drink from a cup: __________ (Goal is before age 1.)
Dental visit: __________ (Goal is before age 1.)

Protect Your Baby’s Teeth in the First Year.

Your baby is born with 20 little teeth growing under the gums. You can’t see them. But they are there! You can’t see germs either. But they are there, too.

Did you know?

Germs + Sugar = Tooth Decay

☐ Tooth decay is an infection. Germs and sugary food left in a baby’s mouth can eat holes in the teeth called cavities.
☐ You pass germs on to your baby when you share food, forks, spoons, straws, or toothbrushes. Licking a pacifier covers it with your germs, too!
☐ Sugar is in many foods, including breast milk, formula, baby food, juice, and sodas.

Take care of your baby’s mouth right from the start.

☐ Clean your baby’s gums and any teeth after feeding and at bedtime. Use a clean, damp washcloth or child’s soft toothbrush. You can wipe away food and even germs. Do this even if you can’t see the teeth yet.
☐ Avoid passing germs to your baby’s mouth. Don’t put a spoon, a pacifier, or a toothbrush in your mouth before giving it to your baby. Ask grandparents or daycare providers not to share germs, too.
☐ Visit the dentist to get your teeth and gums cleaned. This will cut down on the germs in your mouth, leaving less germs to pass on to your baby. If you don’t have insurance, call ACTION at 1-866-340-4357.

Your baby’s first tooth.

☐ Look for your baby’s first tooth at about 6 months.
☐ Schedule your baby’s first dental visit around their first birthday. Starting dental visits early can prevent costly dental care later. If your baby is on AHCCCS or KidsCare, dental visits are covered.
☐ Look at your baby’s gums and teeth at least once a month. Healthy teeth should be all one color. See a dentist if you see white or brown spots or stains on your baby’s teeth.

What else can I do to help my baby’s teeth?

☐ Don’t dip your baby’s pacifier in anything sweet, like sugar or honey.
☐ Never put your baby to sleep with a bottle.
☐ Remember to clean your baby’s gums and teeth after they eat.
☐ Don’t give your baby sweet drinks.
☐ Wear your baby from the bottle by age one.
**About Our Dental Visits:**
My dental visit is on:
- Date: __________________________
- Time: __________________________

My child's dental visit is on:
- Date: __________________________
- Time: __________________________

Dentist's Name: __________________________
Location: __________________________
Phone: __________________________

A dental visit is a good time to ask questions. Ask your dentist:
- □ Is my child getting enough fluoride?
- □ Am I brushing my child's teeth right?
- □ Is my child's tooth color okay?
  (Remember, baby teeth should all be one color.)

Also, tell your dentist:
- □ What your baby likes to eat and drink.
- □ If your baby is still using a bottle.

For more information, call 1-800-232-1676 or visit www.azdhs.gov. If your child is on AHCCCS or KidsCare, dental visits are covered.

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**ARE YOU PASSING TOOTH DECAY TO YOUR BABY?**

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**Did you know?**
**Germs + Sugar = Tooth Decay**

**Germs Cause Tooth Decay.**
Tooth decay is an infection. Germs and sugary food left in your child's mouth can eat holes in the teeth called cavities.

**Don't Share Germs.**
You pass germs on to your child when you share food, forks, spoons, straws, toothbrushes or pacifiers.

**Limit Sugar.**
Sugar is in many foods. Limit sweets (candy, cookies, puddings, etc.), snack foods (chips and french fries), and sweet drinks (soda, fruit punch, sports drinks).

**Take care of your child's teeth:**

**Brush.**
Brush your child's teeth with a soft toothbrush twice a day to remove germs and food. You can start using a pea-size drop of fluoride toothpaste when your child is two years old.

**Go to the Dentist.**
Your child needs a dental visit by age one and every year after that. Starting dental visits early can prevent costly dental care later. If your child is on the Arizona Health Care Cost Containment System (AHCCCS) or KidsCare, dental visits are covered.

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**Use a Cup Instead of a Bottle.**
Your child should drink from a cup at age one. The best drinks for your child are:
- Water with fluoride
- Milk
- Small amounts of 100% fruit juice (1/2 cup to 2/3 cup per day)

**Check Your Child's Teeth and Gums.**
Look at your child's teeth and gums at least once a month. Healthy teeth should be all one color. Take your child to the dentist if you see white or brown spots or stains on the teeth.

**Give Your Child Water with Fluoride.**
Ask a dentist or doctor if your tap water has fluoride. If you buy bottled water, check the label for fluoride. Fluoride is a safe and easy way to protect teeth from decay. It also helps heal early decay.

**Give Your Child Healthy Meals and Snacks.**
Give your child three good meals a day.
Social Marketing Research: Early Childhood Caries

Purpose:
To present information on results of the first two phases of a pediatric social marketing research project targeted at parents of infants, toddlers and preschool children.

Objectives:
- Provide information on the methods and results of social marketing research
- Identify three important target audiences for information on early childhood caries
- Identify potential areas of influence to impact knowledge and behavioral changes in target population
- Discuss the next steps for the implementation of the social marketing campaign

Arizona Department of Health Services
Office of Oral Health

http://www.azdhs.gov/cfhs/ooh/pdf/quantitative_research_brief.doc
Healthy Smiles for California’s Children
Maria Perno Goldie, RDH, BA, MS
Professional Member, National Speakers Association
Editor in Chief, Modern Hygienist

- Maria graduated from the University of Pennsylvania, School of Dental Hygiene & is the recipient of the 1999 University of Pennsylvania Dental Hygiene Alumni Achievement Award. She is also a 2003 winner of the Pfizer/ADHA Award for Excellence in Dental Hygiene. She earned her BA in Health Services Administration from Saint Mary’s College and a MS in Health Science from San Francisco State University. Maria is a member of the 2004-2006 fellowship of the California Health Care Foundation’s (CHCF) Health Care Leadership Program, administered by the Center for Health Professions at the University of California, San Francisco. She is an Honorary Member of Sigma Phi Alpha, the National Dental Hygiene Honor Society.
Maria Perno Goldie, RDH, BA, MS

• As a noted researcher, author, and speaker, Maria has presented seminars nationally and internationally on topics such as *Women’s Health and Wellness, Oral Care for the Cancer Patient, Oral Cancer, and Immunology and Periodontal Disease.* She has appeared on several network television interviews regarding the link between periodontal disease and systemic disease, and in 2001 appeared on the Fox Health Network/WEBMD.TV -- *The “Cutting Edge Medical Report.”* She has taken part in a number of radio interviews have been conducted across the country, to emphasize the importance of oral health as a foundation for systemic health and a beautiful smile.
Maria Perno Goldie, RDH, BA, MS

- Maria is a member of the International Association for Dental Research (IADR), Oral Health Research Group, and the American Dental Education Association (ADEA).
- Maria is a life member of the ADHA and the California Dental Hygienists’ Association (CDHA). She has served on the Editorial Review Board of ACCESS Magazine and currently contributes to the International Journal of Dental Hygiene. In addition, she is a quoted expert in Women Doctors’ Guide to Health and Healing published by the editors of Prevention Magazine, and is a co-author of Conversations in Health & Wellness, along with John Gray and others.
Maria Perno Goldie, RDH, BA, MS

- Maria is a member of the *National Advisory Committee for the Robert Wood Johnson Foundation’s Smoking Cessation Leadership Program*. She was appointed to the National Women’s Health Resource Center (NWHRC), *Women’s Health Advisory Council*, and reviews content for their website. As an active board member of the Dental Health Foundation, the dental public health organization in California, she helps underserved communities and contributes to the education and policy making of a number of organizations. Maria served as the 1997-98 President of the American Dental Hygienists’ Association (ADHA), currently serves on an advisory panel to develop “The Future of Dental Hygiene Report.”, and is the Vice President of the International Federation of Dental Hygienists’ (IFDH). She can be reached at mgoldie@sbcglobal.net or [http://www.nsaspeaker.org/speaker_detail/24208.shtml](http://www.nsaspeaker.org/speaker_detail/24208.shtml)