

# LESSON 4: PREVENTION

**Purpose:** To gain a basic understanding of the beneficial health behaviors and prevention interventions that reduce the risk, severity, and impact of dental decay in early childhood.

**Overview:** In this lesson, the trainee explores the health behaviors and preventive measures that enhance children's oral health.

**Goals:** The trainee will be able to describe the following:

- How to prevent dental decay relative to teeth, feeding practices and bacteria
- Appropriate dental hygiene practices for infants and toddlers
- Importance of fluoridation and steps to evaluate sources of fluoride
- Use of dental sealants
- The role of early intervention
- Use of fluoride varnishes and *Chlorhexidine* rinses
- Dietary preventive measures.

**Activities:** Client S says: "I never heard of this 'early childhood caries' and I don't care what it is. Just tell me how to get rid of it or prevent it." Group discussion of this question is particularly useful.

Interactive Participation Activity: "Toothsaver Bingo" (see following pages) is a fun and informative way to review and reinforce important concepts. Trainer should pose the questions that follow and trainees will mark off their answers if they believe it appears on their card. The winner is the first one to mark off all the correct answers on their card.

Key Words:

**Chlorhexidene**  
**Fluoridation**  
**Fluoride Varnish**  
**Sealants**



# TOOTHSAYER BINGO

| QUESTIONS  | CORRECT RESPONSE   |
|--|--|
| 1. When should a child first see a dentist?                                    | No later than one year of age  |
| 2. When should a parent or caregiver begin to clean a child's mouth and teeth? | As early as possible, before the teeth erupt   |
| 3. What can you do to soothe teething discomfort?                              | Allow the baby to chew on a cold, wet washcloth, teething ring or a frozen bagel             |
| 4. What is a well-known risk for early childhood caries?                       | Putting a baby to bed with a bottle  |
| 5. Plaque + Food + Teeth = ?   | Tooth decay  |
| 6. How can you clean a baby's gums?  | By wiping with a damp clean washcloth or baby sock   |
| 7. What is meant by the term "tooth decay?"                                    | The destruction of tooth enamel by acid-producing bacteria                                   |
| 8. How can you strengthen your baby's tooth enamel?                            | By use of fluoride   |
| 9. What are dental sealants?   | Thin plastic coatings, which are applied to teeth to prevent decay                           |
| 10. Why is frequent snacking a significant risk for dental decay?              | Bacteria produce the acids that decay teeth for 20 minutes each time carbohydrates are eaten |
| 11. How much toothpaste should you put on a brush for a young child?           | A pearl or pea-sized amount  |
| 12. What is one eating habit that promotes tooth decay?                        | Frequent snacks high in sugar  |



| QUESTIONS   | CORRECT RESPONSE   |
|---|--|
| 13. At what age should a baby be weaned from the bottle to a cup?                 | Any time after six months of age   |
| 14. What is the safest method to get fluoride in the diet?                        | Optimally fluoridated drinking water   |
| 15. What happens if tooth decay goes too far?                                     | Pain, expensive dental treatment, loss of teeth, shifting of other teeth   |
| 16. How early can tooth decay start?  | Decay can begin as soon as teeth begin to come into the mouth  |
| 17. How often should you check your child's teeth for early childhood caries?     | A baby's teeth should be checked monthly by lifting the upper lip  |
| 18. When do a baby's first teeth begin to erupt?                                  | Every baby is different: on average the first tooth will erupt around six months of age  |
| 19. Who is most responsible for the health of a child's teeth?                    | The parent or caregiver  |
| 20. What are some foods that provide a healthy diet for your child?               | Well chopped raw vegetables and fruit, cooked vegetables, thinly sliced cheese, milk, unsweetened juices, and plain dry cereal |
| 21. What are common factors that put an individual at high risk for dental decay? | Plaque formation, poor dental care and oral hygiene, and excessive snacks high in carbohydrates                                |
| 22. To avoid early childhood caries, what is the one thing you should never do?   | Put your baby to bed with a bottle containing any liquid other than water  |
| 23. A pacifier should never be dipped into the following substances?              | Honey, syrup or any other sweet liquid   |
| 24. What is the most common type of decay found in children under the age of two? | Early Childhood Caries (ECC)   |



# BINGO CARD 1

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|--|--|---|
| <p><b>PLAQUE FORMATION,<br/>POOR DENTAL CARE<br/>AND ORAL HYGIENE<br/>AND EXCESSIVE<br/>SNACKS HIGH IN<br/>CARBOHYDRATES</b></p> | <p><b>THE DESTRUCTION<br/>OF TOOTH ENAMEL<br/>BY ACID PRODUCING<br/>BACTERIA</b></p>             | <p><b>ANY TIME AFTER SIX<br/>MONTHS OF AGE</b></p>  |
| <p><b>AS EARLY AS<br/>POSSIBLE, BEFORE<br/>THE TEETH ERUPT</b></p>   |               | <p><b>DECAY CAN BEGIN<br/>AS SOON AS TEETH<br/>BEGIN TO COME INTO<br/>THE MOUTH</b></p>                         |
| <p><b>PUTTING A BABY TO<br/>BED WITH A BOTTLE</b></p>  | <p><b>BY WIPING WITH A<br/>DAMP CLEAN,<br/>WASHCLOTH OR A<br/>SMALL, CLEAN<br/>BABY SOCK</b></p> | <p><b>ALLOWING THE BABY<br/>TO CHEW ON A COLD<br/>WET WASHCLOTH,<br/>TEETHING RING, OR<br/>FROZEN BAGEL</b></p> |



# BINGO CARD 2

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|---|---|--|
| <p><b>ANYTIME AFTER SIX MONTHS OF AGE</b></p>                                   | <p><b>EARLY CHILDHOOD CARIES (ECC)</b></p>  | <p><b>THE DESTRUCTION OF TOOTH ENAMEL BY ACID PRODUCING BACTERIA</b></p>   |
| <p><b>A BABY'S TEETH SHOULD BE CHECKED MONTHLY BY LIFTING THE UPPER LIP</b></p> |  | <p><b>WELL-CHOPPED RAW VEGETABLES AND FRUIT, COOKED VEGETABLES, THINLY SLICED CHEESE, MILK, UNSWEETENED JUICE AND PLAIN DRY CEREAL</b></p> |
| <p><b>TOOTH DECAY</b></p>   | <p><b>THIN PLASTIC COATINGS THAT ARE APPLIED TO TEETH TO PREVENT DECAY</b></p>      | <p><b>THE PARENT OR CAREGIVER</b></p>  |



# BINGO CARD 3

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|--|---|---|
| <p><b>FREQUENT SNACKS<br/>HIGH IN SUGAR</b></p>  | <p><b>HONEY, SYRUP OR<br/>ANY OTHER SWEET<br/>LIQUID</b></p>                        | <p><b>THE PARENT OR<br/>CAREGIVER</b></p>   |
| <p><b>NO LATER THAN<br/>1 YEAR OF AGE</b></p>  |  | <p><b>PAIN, EXPENSIVE<br/>TREATMENT, LOSS OF<br/>TEETH, SHIFTING OF<br/>OTHER TEETH</b></p> |
| <p><b>BACTERIA PRODUCE<br/>THE ACIDS THAT<br/>DECAY TEETH FOR 20<br/>MINUTES EACH TIME<br/>CARBOHYDRATES<br/>ARE EATEN</b></p> | <p><b>AS EARLY AS<br/>POSSIBLE, BEFORE<br/>THE TEETH ERUPT</b></p>                  | <p><b>OPTIMALLY<br/>FLUORIDATED<br/>DRINKING WATER</b></p>                                  |



# BINGO CARD 4

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|--|---|--|
| <p><b>FREQUENT SNACKS<br/>HIGH IN SUGAR</b></p>  | <p><b>DECAY CAN BEGIN AS<br/>SOON AS TEETH<br/>BEGIN TO COME INTO<br/>THE MOUTH</b></p>                 | <p><b>BACTERIA PRODUCE<br/>THE ACIDS THAT<br/>DECAY TEETH FOR 20<br/>MINUTES EACH TIME<br/>CARBOHYDRATES<br/>ARE EATEN</b></p> |
| <p><b>BY WIPING WITH A<br/>DAMP, CLEAN<br/>WASHCLOTH OR A<br/>SMALL, CLEAN<br/>BABY SOCK</b></p> |                      | <p><b>HONEY, SYRUP OR<br/>ANY OTHER SWEET<br/>LIQUID</b></p>   |
| <p><b>THE DESTRUCTION<br/>OF TOOTH ENAMEL<br/>BY ACID-PRODUCING<br/>BACTERIA</b></p>             | <p><b>PUT YOUR BABY TO<br/>BED WITH A BOTTLE<br/>CONTAINING ANY<br/>LIQUID OTHER THAN<br/>WATER</b></p> | <p><b>A PEARL OR<br/>PEA-SIZED AMOUNT</b></p>  |



# BINGO CARD 5

|  |   |   |
|--|---|---|
| <p><b>PLAQUE FORMATION,<br/>POOR DENTAL CARE<br/>AND ORAL HYGIENE<br/>AND EXCESSIVE<br/>SNACKS HIGH IN<br/>CARBOHYDRATES</b></p> | <p><b>ALLOWING THE BABY<br/>TO CHEW ON A COLD<br/>WET WASHCLOTH,<br/>TEETHING RING, OR<br/>FROZEN BAGEL</b></p> | <p><b>THE PARENT OR<br/>CAREGIVER</b></p>   |
| <p><b>NO LATER THAN<br/>1 YEAR OF AGE</b></p>  |                              | <p><b>PAIN, EXTENSIVE<br/>TREATMENT, LOSS OF<br/>TEETH, SHIFTING OF<br/>OTHER TEETH</b></p> |
| <p><b>BY USE OF FLUORIDE</b></p>   | <p><b>EARLY CHILDHOOD<br/>CARIES (ECC)</b></p>  | <p><b>TOOTH DECAY</b></p>   |



# BINGO CARD 6

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|---|---|---|
| <p><b>OPTIMALLY<br/>FLUORIDATED<br/>DRINKING WATER</b></p>  | <p><b>HONEY, SYRUP OR<br/>ANY OTHER SWEET<br/>LIQUID</b></p>  | <p><b>EVERY BABY IS<br/>DIFFERENT: ON<br/>AVERAGE THE FIRST<br/>TOOTH WILL ERUPT<br/>AROUND THE AGE<br/>OF SIX MONTHS</b></p> |
| <p><b>THE PARENT OR<br/>CAREGIVER</b></p>   |                      | <p><b>EARLY CHILDHOOD<br/>CARIES (ECC)</b></p>  |
| <p><b>ALLOWING THE BABY<br/>TO CHEW ON A COLD<br/>WET WASHCLOTH,<br/>TEETHING RING, OR<br/>FROZEN BAGEL</b></p> | <p><b>PUT YOUR BABY TO<br/>BED WITH A BOTTLE<br/>CONTAINING ANY<br/>LIQUID OTHER<br/>THAN WATER</b></p> | <p><b>NO LATER THAN<br/>1 YEAR OF AGE</b></p>   |



# BINGO CARD 7

|   |  |   |
|---|--|---|
| <p><b>FREQUENT SNACKS<br/>HIGH IN SUGAR</b></p> | <p><b>PUT YOUR BABY TO<br/>BED WITH A BOTTLE<br/>CONTAINING ANY<br/>LIQUID OTHER<br/>THAN WATER</b></p>                        | <p><b>EVERY BABY IS<br/>DIFFERENT: ON<br/>AVERAGE THE FIRST<br/>TOOTH WILL ERUPT<br/>AROUND THE AGE<br/>OF SIX MONTHS</b></p> |
| <p><b>TOOTH DECAY</b></p>                       |   | <p><b>HONEY, SYRUP OR ANY<br/>OTHER SWEET LIQUID</b></p>  |
| <p><b>A PEARL OR<br/>PEA-SIZED AMOUNT</b></p>   | <p><b>BACTERIA PRODUCE<br/>THE ACIDS THAT<br/>DECAY TEETH FOR 20<br/>MINUTES EACH TIME<br/>CARBOHYDRATES<br/>ARE EATEN</b></p> | <p><b>DECAY CAN BEGIN AS<br/>SOON AS TEETH<br/>BEGIN TO COME INTO<br/>THE MOUTH</b></p>                                       |



# BINGO CARD 8

|  |  |  |
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| <p><b>OPTIMALLY<br/>FLUORIDATED<br/>DRINKING WATER</b></p> | <p><b>A BABY'S TEETH<br/>SHOULD BE CHECKED<br/>MONTHLY BY LIFTING<br/>THE UPPER LIP</b></p>      | <p><b>EVERY BABY IS<br/>DIFFERENT: ON<br/>AVERAGE THE FIRST<br/>TOOTH WILL ERUPT<br/>AROUND THE AGE<br/>OF SIX MONTHS</b></p>  |
| <p><b>BY USE OF FLUORIDE</b></p>                           |               | <p><b>EARLY CHILDHOOD<br/>CARIES (ECC)</b></p>   |
| <p><b>A PEARL OR<br/>PEA-SIZED AMOUNT</b></p>              | <p><b>THIN PLASTIC<br/>COATINGS, WHICH<br/>ARE APPLIED TO<br/>TEETH TO PREVENT<br/>DECAY</b></p> | <p><b>WELL-CHOPPED RAW<br/>VEGETABLES AND<br/>FRUIT, COOKED<br/>VEGETABLES, THINLY<br/>SLICED CHEESE,<br/>MILK, UNSWEETENED<br/>JUICES AND PLAIN<br/>DRY CEREAL.</b></p> |



# BINGO CARD 1

|  |  |   |
|--|--|---|
| <p><b>PLAQUE FORMATION,<br/>POOR DENTAL CARE<br/>AND ORAL HYGIENE<br/>AND EXCESSIVE<br/>SNACKS HIGH IN<br/>CARBOHYDRATES</b></p> | <p><b>PUT YOUR BABY TO<br/>BED WITH A BOTTLE<br/>CONTAINING ANY<br/>FLUID OTHER THAN<br/>WATER</b></p>                         | <p><b>ALLOWING THE BABY<br/>TO CHEW ON A COLD<br/>WET WASHCLOTH,<br/>TEETHING RING, OR<br/>FROZEN BAGEL</b></p> |
| <p><b>THIN PLASTIC<br/>COATINGS, WHICH<br/>ARE APPLIED TO<br/>TEETH TO PREVENT<br/>DECAY</b></p>                                 |   | <p><b>FREQUENT SNACKS<br/>HIGH IN SUGAR</b></p>   |
| <p><b>PAIN, EXPENSIVE<br/>TREATMENT, LOSS OF<br/>TEETH, SHIFTING OF<br/>OTHER TEETH</b></p>                                      | <p><b>BACTERIA PRODUCE<br/>THE ACIDS THAT<br/>DECAY TEETH FOR 20<br/>MINUTES EACH TIME<br/>CARBOHYDRATES<br/>ARE EATEN</b></p> | <p><b>DECAY CAN BEGIN<br/>AS SOON AS TEETH<br/>BEGIN TO COME INTO<br/>THE MOUTH</b></p>                         |



# BINGO CARD 10

|  |  |   |
|--|--|---|
| <p><b>OPTIMALLY<br/>FLUORIDATED<br/>DRINKING WATER</b></p>   | <p><b>ANY TIME AFTER SIX<br/>MONTHS OF AGE</b></p>   | <p><b>PUTTING A BABY TO<br/>BED WITH A BOTTLE</b></p>                                       |
| <p><b>HONEY, SYRUP<br/>OR ANY OTHER<br/>SWEET LIQUID</b></p> |         | <p><b>DECAY CAN BEGIN<br/>AS SOON AS TEETH<br/>BEGIN TO COME INTO<br/>THE MOUTH</b></p>     |
| <p><b>TOOTH DECAY</b></p>                                    | <p><b>THIN PLASTIC<br/>COATINGS THAT ARE<br/>APPLIED TO TEETH TO<br/>PREVENT DECAY</b></p> | <p><b>PAIN, EXTENSIVE<br/>TREATMENT, LOSS OF<br/>TEETH, SHIFTING OF<br/>OTHER TEETH</b></p> |



# PREVENTION

## ❖ When should a child start visiting the dentist?

Ideally, children should have an oral health exam before their first birthday. The goal of this visit is to assess the risk for dental disease, initiate a preventive program and decide on when to schedule the next visit. During these early visits, the dentist and dental hygienist can also assess proper tooth development and check for other problems. By starting early, caregivers learn steps to ensure good oral hygiene for their children. By example, children will learn the importance of good oral health care and will see that the oral health visit is a very positive experience.

## ❖ What oral hygiene practices are indicated for infants and young children?

- The parent or caregiver should begin **cleaning** teeth as soon as they begin to enter into the mouth, usually around **4 to 6 months** of age.
- Brushing the teeth 2 to 3 times a day, after eating, would be ideal. Nighttime, before bed, is the most important time to brush. Remember not to eat or drink after brushing at night.
- A small smear or “**pearl**” of **toothpaste** with **fluoride** should be used as soon as brushing begins.
- Use an **infant-size soft nylon-bristle toothbrush** to clean the teeth after each meal and before bedtime. Remember to “**lift the lip**” in order to brush at the gum line and behind the teeth.
- The parent or caregiver should dispense the toothpaste and brush the child’s teeth at least once a day until the age of 6 or 7 years, even if the child wants to do it her/himself. This helps assure proper cleaning and reinforces proper brushing technique.
- The parent or caregiver’s and young child’s **position** during brushing is important for safety and effectiveness. The infant should be seated in the adult’s lap, both facing in the same direction. Similarly, the adult should position his/herself behind a seated or standing toddler, both facing the mirror, reaching around to brush the child’s teeth.



### ❖ What about fluoride?

- **Fluoride** is a mineral that strengthens the outside of teeth. Strong teeth resist decay. Tooth decay can be reduced by 50 to 70 percent with ingestion of proper amounts of fluoride.
- Fluoride is found in naturally occurring ground water and rock beds. It is also commonly found in prepared foods, such as breads and drinks, and in many large public water supplies.

### ❖ Who needs fluoride?

- Connecticut has one of the best public fluoridation systems in the country, but tens of thousands of families living in small towns and communities, or who get their water supply from wells, may not be getting adequate water fluoride levels. Infants growing up in these communities usually need to ingest (systemic) fluoride supplements in the form of drops.
- Fluoride supplementation is essential for any child who is at high risk for dental decay.
- Many adults need topical fluoride supplements applied as a liquid or gel to the surfaces of teeth, based on their oral and medical conditions.



### ❖ How much fluoride supplement should be given?

- The doctor prescribing ingested (systemic) fluoride drops should consider the following before prescribing fluoride supplements:
  - If a child's water source is from a public water supply, it should be determined whether the system is optimally fluoridated.
  - If the child gets his or her water from a well, the water should be tested to determine the presence of adequate amounts of fluoride. This service can be provided by the University of Connecticut Health Center. Call **(860) 679 2805**.
  - **Bottled water** often does not contain adequate amounts of fluoride and, even where fluoride is present, some water filtration systems filter out the fluoride during processing.
  - There is a limited transfer of fluoride from human **breast milk**. Only about 2 percent of a high dose of fluoride given to lactating mothers was transferred to the infant during breast-feeding, in one study.



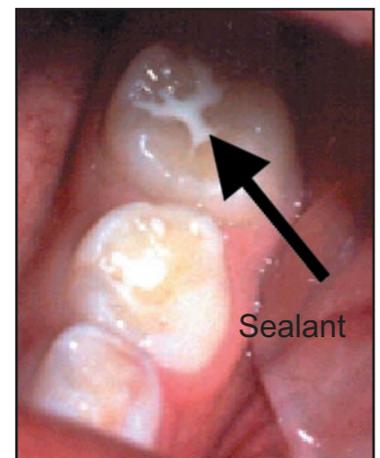
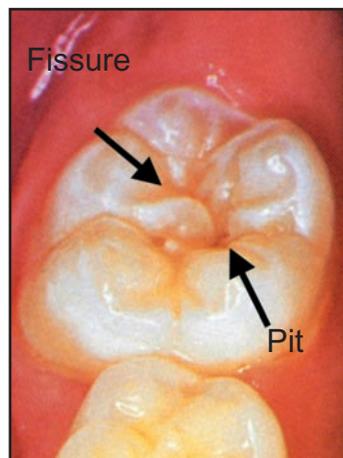
- If the water source is not providing the recommended amount of fluoride, doctors and caregivers should discuss fluoride supplements with their dentist or dental hygienist.
- No fluoride prescription should be written for more than 120 mg of fluoride.

#### ❖ Can fluoride be harmful?

- **Fluorosis** of teeth may result from taking in excessively high levels of fluoride in infancy during the developmental stages of teeth. It may occur very infrequently in young children with ingestion (systemic) or topical application of fluoride from excessive use of fluoridated toothpaste. Fluorosis usually appears as small white areas in the enamel (hard surface of the teeth). It is a cosmetic concern only, and a very minor problem, far outweighed by the benefits of fluoride. The safest method of delivering fluoride in the diet is by optimally fluoridated drinking water.
- Ingesting excessive amounts of fluoride, just like ingesting too much of practically any mineral or medicine, can have serious side effects, especially in children under 3 years of age. Serious complications from excessive fluoride ingestion by young children are very rare.
- Virtually any problem with topical fluoride can be **prevented** by using only a “pearl” of toothpaste on the brush and by adult supervision of the child’s brushing.

#### ❖ What are dental sealants?

- A dental sealant is a thin plastic coating applied to back teeth to prevent decay.
- Most tooth decay in children occurs on the chewing surfaces of the back teeth, or molars. Molars have irregular chewing surfaces with pits and fissures (grooves) which tend to trap food and debris. Sealants flow into and coat these grooves so that bacteria cannot multiply in the pits and fissures and cause decay.
- Sealants are most effective if they are placed soon after the tooth erupts.



❖ **Are there any other preventive measures currently being investigated?**

- **Fluoride varnish** is a type of topical fluoride-containing lacquer that is quickly and simply “painted” onto the susceptible surfaces of the child’s teeth. Fluoride varnish may be a suitable source of topical fluoride for infants and toddlers when professionally applied. Fluoride varnish has been used widely in Europe, for more than 30 years, with good results in preventing dental decay. In the United States, however, fluoride varnish is approved only for preparing the base of cavities in restoring decayed teeth. Applying fluoride varnishes for decay prevention in this country is currently an “off-label” use. It is anticipated that fluoride varnish will be fully approved for decay prevention in the United States in the near future, based upon the results of much recent testing strongly supporting its effectiveness and safety.
- **Chlorhexidine** is an antimicrobial mouth rinse shown to be effective in suppressing decay-causing microorganisms. Research has shown promising uses for chlorhexidine in the prevention of decay in children.

