Screening and Interventions to Prevent Dental Caries in Young Children

The US Preventive Services Task Force (USPSTF) has recently published recommendations on screening and interventions to prevent dental caries in children younger than 5 years.

What Is Dental Caries?
Dental caries, commonly known as cavities or tooth decay, is caused by breakdown of the outer layer of the tooth (enamel). This can happen when bacteria and sugar on the teeth interact to produce substances that erode tooth enamel. Risk factors for dental caries include genetic factors (certain types of bacteria in the mouth), dietary factors (eating sugary foods), and other behavioral factors (poor oral hygiene and lack of toothbrushing).

Dental caries is estimated to affect 23% of US children aged 2 to 5 years. They can cause tooth pain and decreased quality of life. Pain with chewing can lead to poor nutrition and growth.

What Methods Are Used to Screen for Dental Caries in Young Children?
For the purposes of this recommendation statement, screening for dental caries is done by examination of the mouth and teeth by a primary care clinician (such as a pediatrician), not a dental professional. Clinicians look at the teeth for signs of decay and assess the whole mouth for signs of poor oral hygiene, which may prompt referral to a dentist.

What Interventions Are Used to Prevent Dental Caries in Young Children?
Interventions include oral fluoride supplementation for children who live in areas with not enough fluoride in the tap water as well as topical fluoride treatment (applied as a varnish on the teeth).

What Is the Population Under Consideration for Screening and Interventions for Dental Caries?
This recommendation applies to children younger than 5 years who do not have any symptoms of dental caries.

What Are the Potential Benefits and Harms of Screening and Interventions for Dental Caries in Young Children?
For children who live in areas where the tap water does not have enough fluoride, there is evidence to suggest that oral fluoride supplementation reduces the rate of cavities. Furthermore, there is evidence to suggest that fluoride varnish can prevent cavities in children younger than 5 years, regardless of local water fluoride levels. No studies have compared clinical outcomes (such as rate of cavities) between children younger than 5 years who were screened vs not screened for dental caries by primary care clinicians.

Screening examinations for dental caries are noninvasive and not likely to cause serious harm. A potential harm of fluoride treatment (either oral or topical) is discoloration of the teeth (fluorosis), but this is uncommon.

How Strong Is the Recommendation to Screen for Dental Caries in Young Children?
The USPSTF concludes with moderate certainty that there is a moderate net benefit of oral fluoride supplementation for children aged 6 months or older whose water supply is deficient in fluoride. The USPSTF concludes with moderate certainty that there is a moderate net benefit of fluoride varnish application in all children younger than 5 years. For children younger than 5 years, the balance of benefits vs harms of performing routine oral screening examinations for dental caries by primary care clinicians cannot be determined.

FOR MORE INFORMATION
US Preventive Services Task Force
www.uspreventiveservicestaskforce.org/uspstf/topic_search_results?topic_status=I

Author: Jill Jin, MD, MPH
Author Affiliation: Associate Editor, JAMA.
Conflict of Interest Disclosures: None reported.

The JAMA Patient Page is a public service of JAMA. The information and recommendations appearing on this page are appropriate in most instances, but they are not a substitute for medical diagnosis. For specific information concerning your personal medical condition, JAMA suggests that you consult your physician. This page may be photocopied noncommercially by physicians and other health care professionals to share with patients. To purchase bulk reprints, email reprints@jamanetwork.com.