

# Caries Risk Assessment and Care Pathways: Foundational Articles and Recommendations

**American Academy of Pediatric Dentistry.** Caries risk assessment and management for infants, children, and adolescents, 2021. [http://www.aapd.org/media/Policies\\_Guidelines/BP\\_CariesRiskAssessment.pdf](http://www.aapd.org/media/Policies_Guidelines/BP_CariesRiskAssessment.pdf).

Christian B, Armstrong R, Calache H, et al. A systematic review to assess the methodological quality of studies on measurement properties for caries risk assessment tools for young children. *Int J Paediatr Dent* 2019;29:106-116.

**Featherstone JDB, Chaffee BW.** The evidence for caries management by risk assessment (CAMBRA). *Adv Dent Res* 2018;29: 9-14.

**Fontana M.** The clinical, environmental, and behavioral factors that foster early childhood caries: Evidence for caries risk assessment. *Pediatric Dent* 2015;37(3):217-225.

**Scottish Intercollegiate Guidelines Network.** SIGN 138: Dental interventions to prevent caries in children, March, 2014. <https://www.sign.ac.uk/assets/sign138.pdf>.

**Senneby A, Jejar I, Sahlin N-L, Svensater G.** Diagnostic accuracy of different caries risk assessment methods. A systematic review. *J Dentistry* 2015(43):1385-1393.

**Slayton R, Araujo M, Guzman-Armstrong S, Espinoza L, et al.** Evidence-based clinical practice guideline for nonrestorative management of dental caries. *J Am Dent Assoc* 149 (10):837-849, 2018.

**Weyant RJ, Tracy SL, Anselmo T, Beltran-Aguilar ED, et al.** Topical fluoride for caries prevention: Executive summary of the updated clinical recommendations and supporting systematic review. *J Am Dent Assoc* 2013;144(11):1279-91

## Background

The goal of caries risk assessment is to deliver preventive and restorative care optimized to a specific individual patient. Presently, however, few studies so far have determined how the application of caries risk assessment affects individual dental health outcomes. Dental caries care pathways are based on an understanding of risk factors as applied

to a specific child. Children at high caries risk require intense prevention to prevent caries initiation and arrest caries progression. Care pathways also assume that there will be little benefit of advanced preventive therapies for those children who are at low risk for dental caries (see Table for care pathways).

## IAPD Recommendations

**1.** Important caries risk factors are the presence of enamel defects, previous caries experience and the longitudinal evaluation of lesion progression (increased dimension/ cavitation of white spot lesions or presence of new lesions) at recall visits.

Consensus-based recommendation > Global agreement 100%

**2.** Other useful caries risk factors in children are: whether the mother/caregiver has active caries, the socioeconomic status of the family, and whether the child consumes fermentable carbohydrates at high frequency (see Table for caries risk indicators).

Consensus-based recommendation > Global agreement 94%

**3.** Besides determining caries risk at initiation of therapy, and ongoing assessment of a changes in risk factors over time allows for refinement of caries

management.

Consensus-based recommendation > Global agreement 100%

**4.** The term “active surveillance” is used to denote instituting caries preventive measures and careful monitoring of caries arrestment or progression.

Consensus-based statement > Global agreement 94%

**5.** Along with other information, the likelihood of a patient returning for periodic recalls and compliance with preventive therapy, is important for considering active surveillance strategies.

Consensus-based statement > Global agreement 100%

**Dental Caries Care Pathways Based on a Child’s Caries Risk Assessment.**

	Low Risk	Moderate Risk	High Risk
Caries Risk Indicators	Child has no caries No new lesions in 1 year No white spot lesions High SES	Child has/had 1 or more lesions 1 or more lesions/year Infrequent white spot lesions Middle SES	Child has/had 1 or more proximal lesions More than 2 new lesions/year Numerous white spot lesions Mother/caregiver has active caries Low SES
Diagnostic Procedures	Exam interval 12 months Radiograph interval	Exam interval 6 months Radiograph interval 6-12 months	Exam interval 3 months Radiograph interval 6 months Diet analysis
Preventive Therapy	Brushing with F toothpaste twice daily Sealants	Brushing with F toothpaste twice daily Professional topical fluorides tx every 6 months Sealants	Brushing with F toothpaste twice daily Systemic fluoride supplements** Professional topical fluoride tx every 3 months Sealants Brushing with high potency F gel (over age 6) Dietary counseling
Restorative Therapy	None	Active surveillance of white spot and enamel proximal lesions enamel proximal lesions Restoration or SDF*** tx. of progressing lesions Restoration or SDF tx. of cavitated lesions	Active surveillance white spot lesions Restoration of enamel proximal lesions Restoration or SDF tx. of progressing lesions Restoration or SDF tx. of cavitated lesions

\* SES = socioeconomic setting

\*\* Age and water supply considerations

\*\*\* SDF = silver diamine fluoride topical treatment

How to cite: IAPD Foundational Articles and Consensus Recommendations: Caries Risk Assessment and Care Pathways, 2022. [http://www.iapdworld.org/2022\\_13\\_caries-risk-assessment-and-care-pathways](http://www.iapdworld.org/2022_13_caries-risk-assessment-and-care-pathways).