

# Myths and Misconceptions about Early Childhood Oral Health

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April 25, 2019



**Dental care during pregnancy is not safe**

**MYTH**

# Question

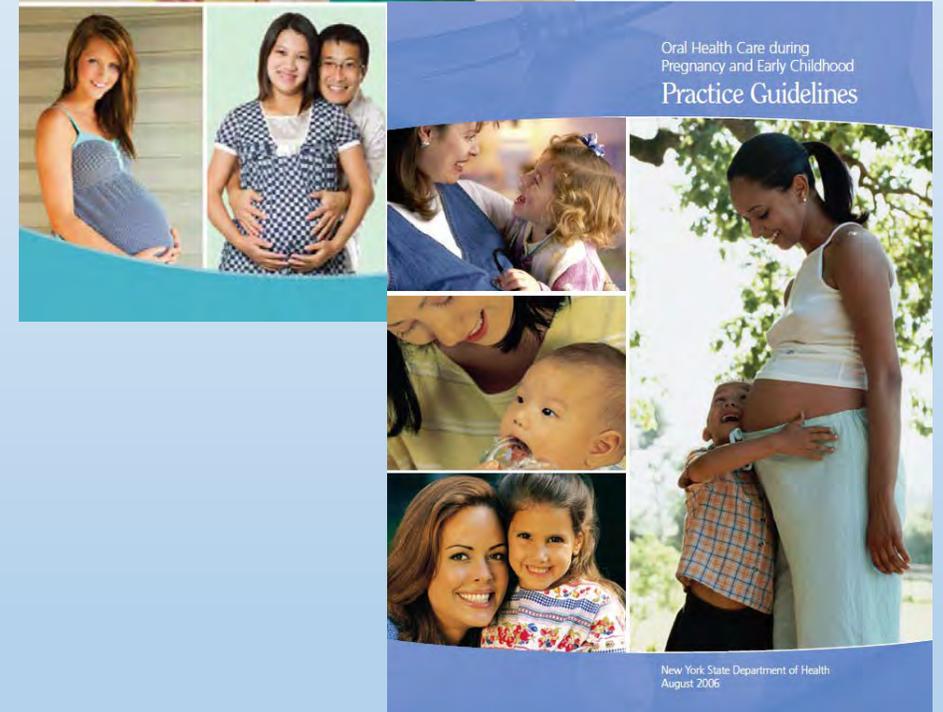
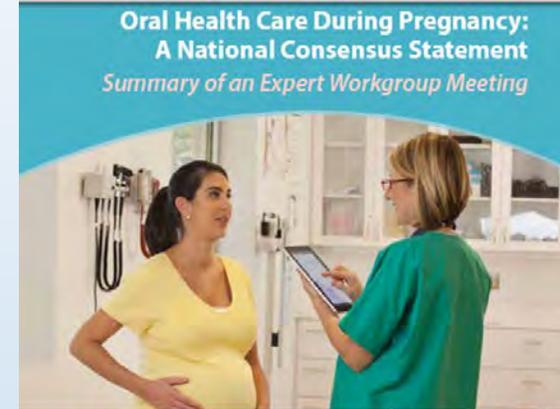
During the first trimester it is safe to diagnose and treat, including taking radiographs, to deal with immediate dental needs.

- A) True
- B) False
- C) I don't know



# Pregnancy & Oral Health

- Pregnancy is a unique time characterized by complex physiological changes, which may adversely affect oral health
- Oral health is key to overall health and well-being.
- Preventive, diagnostic and restorative dental treatment is safe throughout pregnancy and is effective in improving and maintaining oral health.



# Dental Care During Pregnancy is **Safe and Important**

A healthy mouth for mother, a healthy start for baby



Coach women during pregnancy about how the condition of their teeth and mouth can impact their children's risk for tooth decay



Untreated gum disease in pregnant women can harm their systemic health and may be linked to low birth weight/preterm births

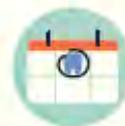


Mothers can unintentionally pass cavity-causing bacteria to newborns, increasing children's risk for tooth decay



Children are more than **3x as likely** to have tooth decay if their mothers have high levels of untreated tooth decay

## 4 Ways Pregnant Women Can Give Their Newborns a Healthy Start



Make and keep regular dental appointments



Brush with fluoride toothpaste at least 2x a day



Drink fluoridated tap water every day



Talk to a dentist or doctor about ways to prevent or manage dental problems

For more information and resources,

visit [www.endcavities.org/during-pregnancy](http://www.endcavities.org/during-pregnancy) and [www.aap.org](http://www.aap.org)

American Academy of Pediatrics  
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children's dental health project



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The information contained in this publication should not be used as a substitute for medical care and the advice of your pediatrician. There may be variations in treatment that your pediatrician may recommend based on individual facts and circumstances.



Available in 3 languages: English, Spanish, and Chinese!

<https://www.cdhp.org/blog/459-infographic-dental-care-is-safe-and-important-during-pregnancy>

**Prenatal nutrition does not affect oral  
health**

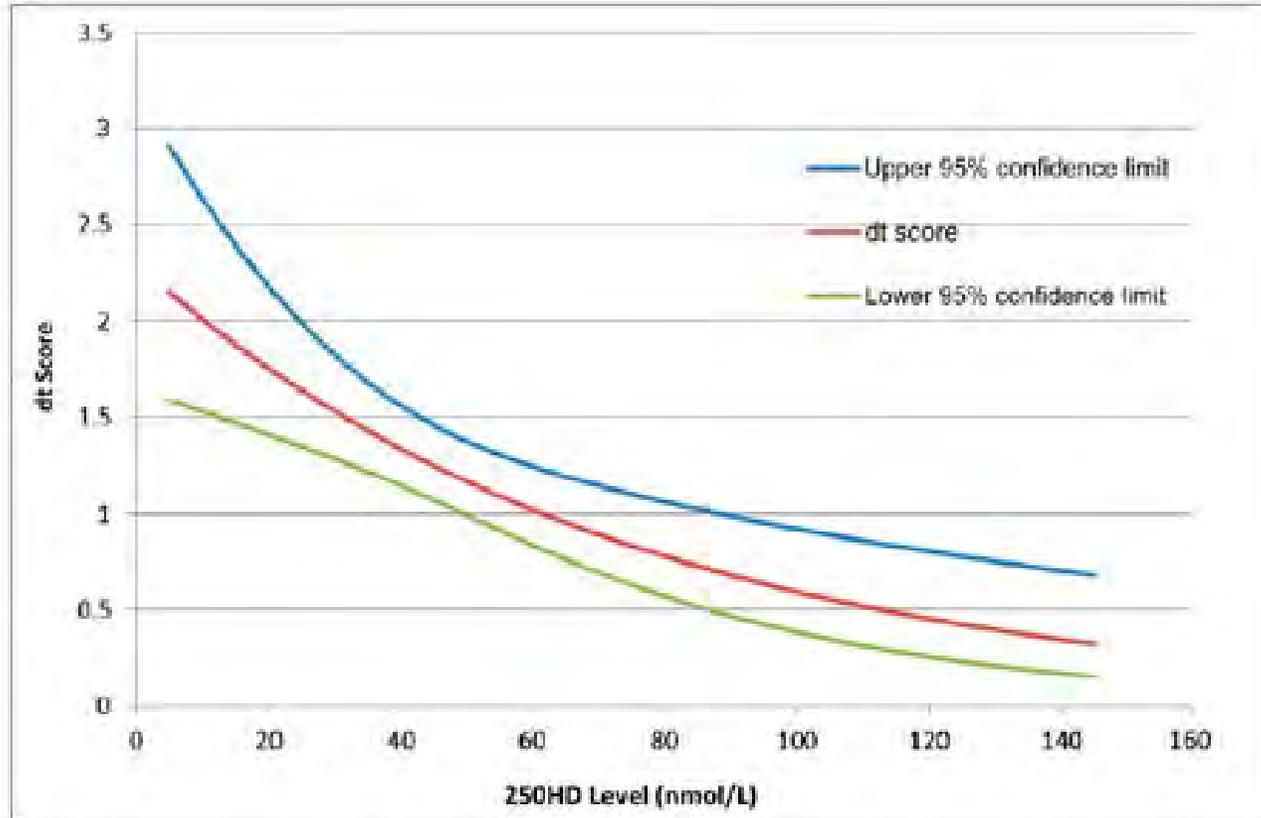
**MYTH**

# Diet & Nutrition

## Prenatal Vitamin D and Dental Caries in Infants

Robert J. Schroth, Christopher Lavelle, Robert Tate, Sharon Bruce, Ronald J. Billings and Michael E.K. Moffatt

*Pediatrics*; originally published online April 21, 2014;  
DOI: 10.1542/peds.2013-2215



**FIGURE 1**

Predicted number of decayed primary teeth (dt score) according to 25OH D level.

- Caring for baby teeth begins before baby arrives.
- Vitamin D and calcium are essential building blocks for strong teeth.
- Give your child dental friendly snacks like fruit, vegetables, and cheese. Vitamin D rich foods and supplements may also help prevent cavities.

# Prenatal Vitamin D and Early Childhood Caries (ECC)

TABLE 5 Logistic Regression for ECC (Excluding White Spot Lesions): Final Expanded Model

Variable	Regression Coefficient (b) (SE)	Adjusted Odds Ratio (95% CI)	P
Low annual income (reference: >\$18 000)	-2.47 (1.49)	0.085 (0.005-1.57)	.1
Child health (reference: less than very good to good)	-0.61 (0.60)	0.55 (0.17-1.76)	.31
Infant's teeth being cleaned or brushed (reference: no)	1.29 (1.04)	3.63 (0.47-28.07)	.22
Drink milk (reference: not often)	-0.36 (0.60)	0.70 (0.21-2.29)	.55
Enamel hypoplasia (reference: no)	2.18 (0.67)	8.89 (2.40-32.87)	.001
No one with full-time employment in household (reference: no)	0.99 (0.91)	2.70 (0.45-16.24)	.28
Government assistance (reference: no)	-0.48 (0.60)	0.62 (0.19-1.99)	.42
Infant age at time of dental examination (reference: $\geq 14$ mo)	-1.60 (0.62)	0.20 (0.06-0.68)	.01
Infant feeding (bottle) (reference: mixed)	0.25 (0.64)	1.28 (0.36-4.51)	.70
Infant feeding (breast) (reference: mixed)	-0.14 (1.62)	0.87 (0.04-20.63)	.93
Season (reference: summer)	-0.40 (0.62)	0.67 (0.20-2.27)	.52
25OH level <sup>a</sup>	-0.029 (0.015)	2.02 (1.00-4.08)	.05

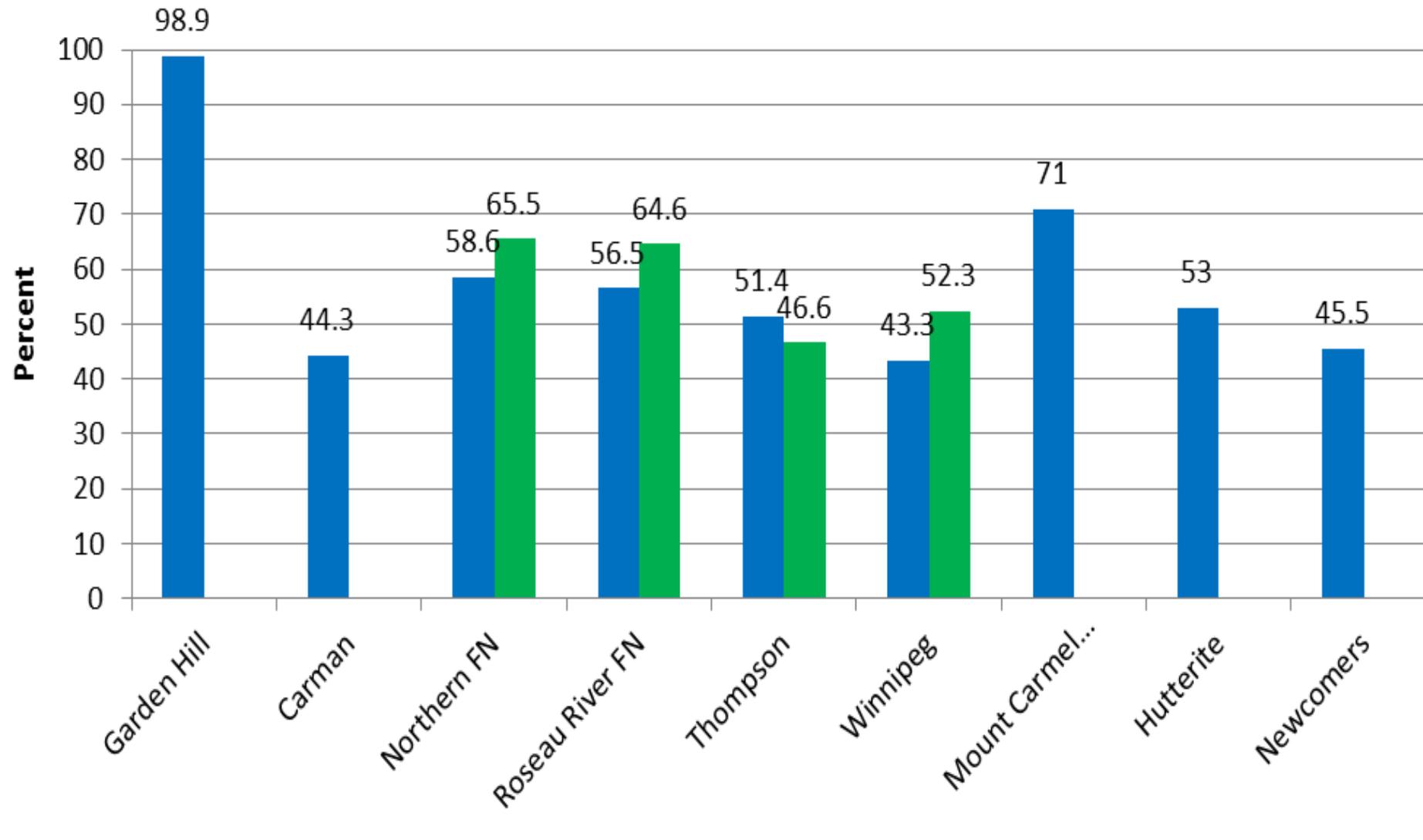
ECC reference = yes;  $R^2 = 32.9\%$ . CI, confidence interval.

<sup>a</sup> SD in sample = 24.44.

**Early Childhood Caries is not a  
problem in Canada**

**MYTH**

# Prevalence of ECC



Schroth et al 2005 J Can Dent Assoc; Schroth & Moffatt Pediatr Dent 2005; Schroth, Moore, Brothwell J Can Dent Assoc 2005; Schroth, Cheba. Pediatr Dent 2007, Schroth et al 2010 Rural & Remote Health, El Azrak et al 2017 J Can Dent Assoc.

# Treating Early Childhood Caries Under General Anesthesia: a National Review of Canadian Data

Robert J. Schroth, DMD, MSc, PhD; Carlos Quiñonez, DMD, MSc, PhD; Luke Shwart, DMD, MBA; Brandon Wagar, PhD



Cite this as: J Can Dent Assoc 2016;82:g20

## Abstract

**Introduction:** Many Canadian children are affected by early childhood caries (ECC) and require treatment under general anesthesia. The purpose of this study was to determine the burden of ECC in Canada.

**Methods:** Day surgery abstracts were extracted from the Canadian Database and National Anesthesia Registry from 2010/11 to 2013/14. All provinces and territories were considered included sex, age, and Aboriginal concentration, and were calculated for the pooled population.

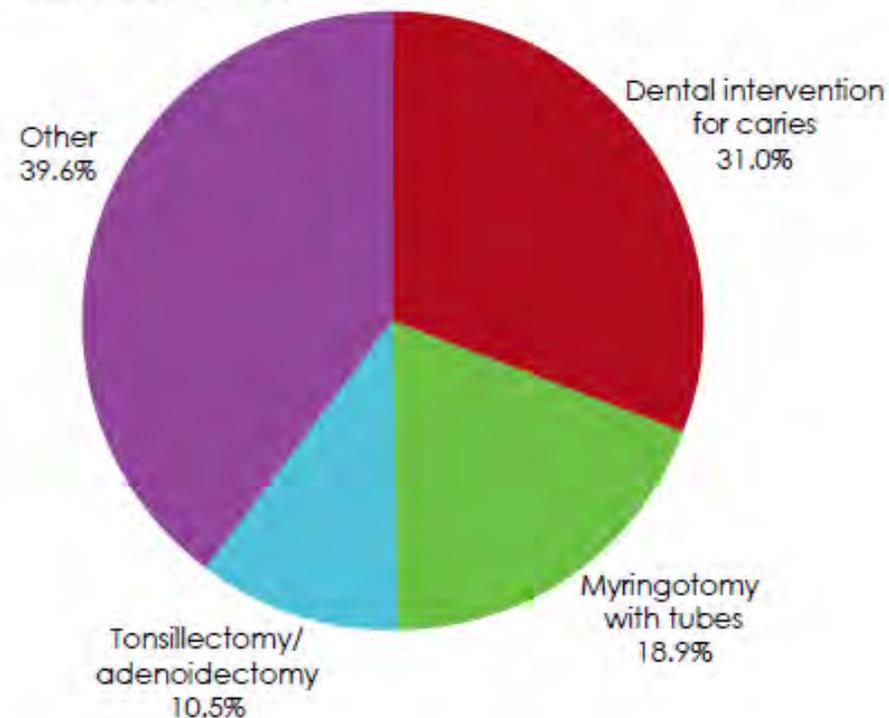
**Results:** The overall rate of day surgery for ECC was 12.5% for children 12–59 months of age, according to age group in Canada. Rates were higher in areas with a high proportion of Aboriginal children (15.1% vs. 9.8 per 1000). Children with ECC were 3.7 times higher than those without (3.7 vs. 1.0 per 1000). Total hospital-associated costs averaged \$21 184 545 annually.

**Conclusion:** Dental surgery for ECC among children from the high-risk population is an important population health indicator.



Treatment of Preventable Dental Cavities in Preschoolers: A Focus on Day Surgery Under General Anesthesia

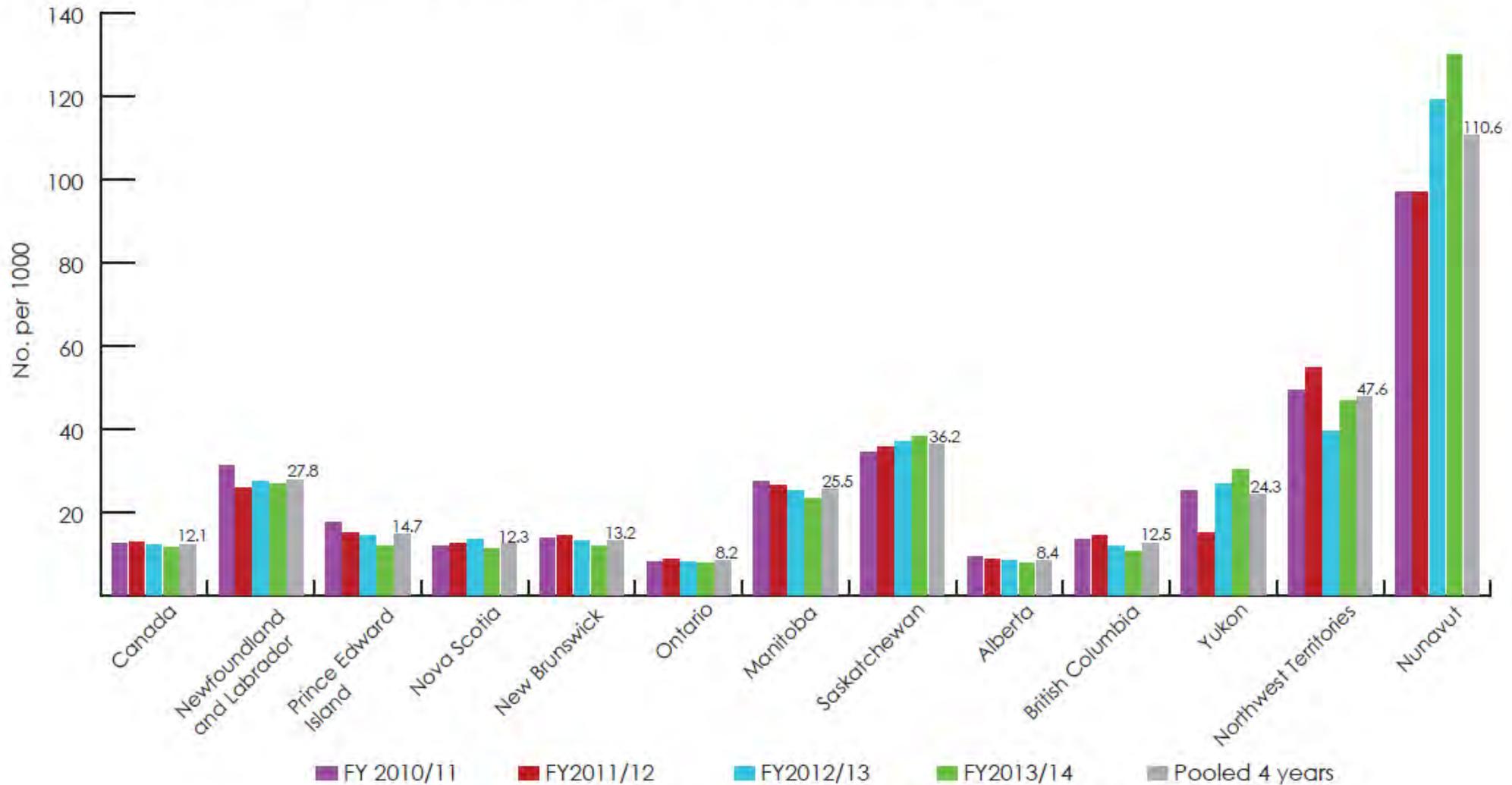
Figure 1: Percentage of pediatric day surgeries in Canada by type of procedure, 2010/11 to 2013/14.



≈ 19,000 day surgery operations per year for caries

\*Rates of dental surgery under general anesthesia to treat caries can serve as an important population health indicator for monitoring, needs assessment and benchmarking purposes.”

Figure 2: Rate of day surgery for dental caries among children 1–4 years old, by province or territory.



- Magnitude of the problem varies by jurisdiction
- Range **8.4 per 1,000** in Ontario **110.6 per 1,000** in Nunavut

# Hospital costs to treat severe caries



Table 1: Hospital cost of day surgery to treat dental caries among children 1–4 years old by province or territory, 2010/11 to 2011/12.

Province or territory	Cost (\$)		
	Average annual	Average/day surgery	Pooled 2-year total
British Columbia	3 516 560	1515	7 033 121
Alberta	2 281 077	1963	4 562 155
Saskatchewan	3 292 791	1699	6 585 582
Manitoba	2 767 564	1643	5 535 127
Ontario	6 506 893	1408	13 013 786
New Brunswick	448 047	1271	896 094
Nova Scotia	730 607	1657	1 461 214
Prince Edward Island	136 151	1441	272 302
Newfoundland and Labrador	971 998	1734	1 943 996
Yukon	61 193	1912	122 386
Northwest Territories	188 881	1379	377 761
Nunavut	282 784	1454	565 567
<b>Total</b>	<b>21 184 545</b>	<b>1564</b>	<b>42 369 090</b>

**Infant feeding practices are the main  
causes of Early Childhood Caries**

**MYTH**

# Early Childhood Caries (ECC)



Table I. Previous used terms for ECC among infants and preschoolers.

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Baby-bottle tooth decay (35-38)
Baby-bottle syndrome (39)
Labial caries (40)
Circular caries (41)
Nursing-bottle mouth (42)
Milk-bottle caries (43)
Nursing caries (44-46,54)
Nursing-bottle caries (4,39)
Nursing-bottle syndrome (47,48,55)
Bottle-propping caries (49)
Bottle-baby syndrome and bottle-mouth caries (50)
Rampant caries (51)
Melanodontie infantile/"les dents noire de tout-petits" (52,53)
Sucking-cup caries (58)
Sugared-tea caries (56)
Sweet-tea caries (57)
Sugar nursing-bottle syndrome (59)

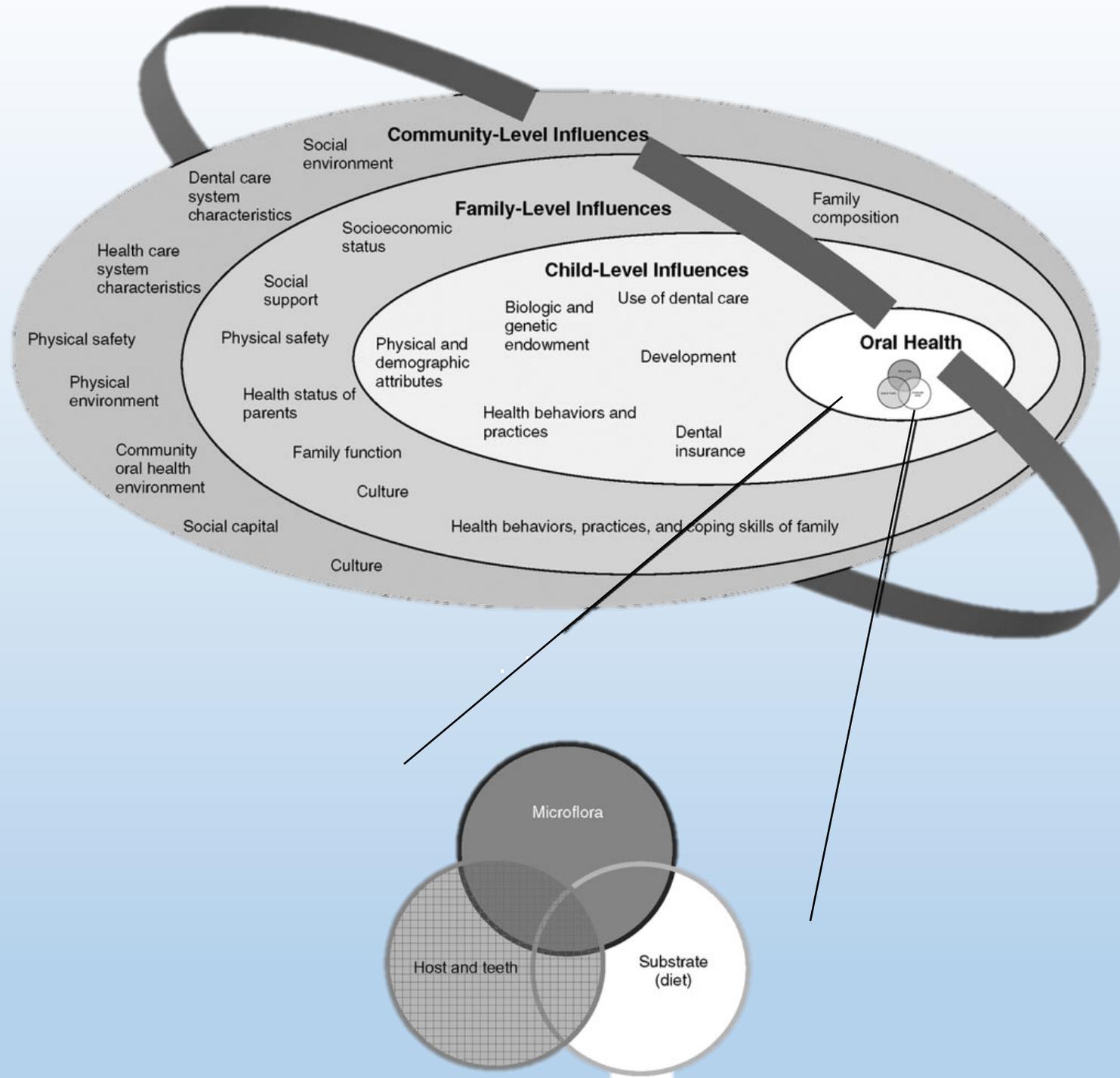
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# CDA Position on ECC

- The Canadian Dental Association (CDA) recognizes that Early Childhood Caries (ECC) is a complex and multifactorial chronic disease that is heavily influenced by:
  - Biomedical factors (diet, bacteria and host)
  - Social determinants of health
- ECC is defined as the presence of one or more decayed (non-cavitated or cavitated lesions), missing (due to caries) or filled tooth surfaces in any primary tooth in a preschool-age child between birth and 71 months of age.



# Fisher-Owens Model (2006)



Feeding practices are an important risk factor, but not the only one!

# Think About Your Baby's Teeth

prevent early childhood tooth decay  
sweet drinks are not meant for sippy cups and bottles

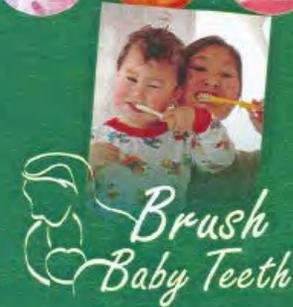


## You Can Prevent Early Childhood Tooth Decay

- Breastfeed
- Brush baby teeth whether breastfeeding or bottle-feeding
- Wipe gums daily from birth and then brush teeth twice daily
- Plain water only in bedtime bottle or sippy cup
- Avoid constant sipping of sweet drinks between meals \*
- Stop using bottle and sippy cup by 14 months
- Take special care of your teeth during pregnancy
- Severe early childhood tooth decay can affect your baby's health

\* Every sip of a sweet drink causes teeth to be attacked by cavity-causing bacteria for 20 minutes.

\*\* Sugar content in 1 cup (8 ounces)



*Brush  
Baby Teeth*

Healthy Smile Happy Child Project 2004 (The Manitoba Collaborative Project for the Prevention of Early Childhood Tooth Decay)  
Special thanks to Roseau River First Nation Community for their contribution

For more information about early childhood tooth decay contact your local dentist, dental therapist/hygienist, physician, nurse or the Manitoba Dental Association.  
Photo Source: Health Canada website and Media Photo Gallery, Health Canada, <http://www.hc-sc.gc.ca> © Reproduced with the permission of the Minister of Public Works and Government Services Canada, 2004.

# Risk Factors for ECC

- Age of child
- Low socioeconomic status (SES)
- No water fluoridation
- Sugar consumption and frequency of snacking
- Poor oral hygiene & late initiation of brushing
- Enamel hypoplasia
- *Streptococcus mutans*
- Family size
- Prolonged bottle feeding
- Bedtime bottle use
- Prolonged non-nutritive breastfeeding
- Sweetened soother
- Delayed first dental visit & limited access to care
- Parental knowledge & attitudes
- Child temperament
- Ethnicity
- Level of education of parents

**Plus Many Others**

Those having trouble weaning a child off of a bottle by age 1, or if the child is used to falling asleep with a bottle of milk can try gradually introducing water into the bottle.

Increase the amount of water slightly each week for a 4-6 week period.

By week 4-6, the child will either continue to take the water bottle or avoid the bottle entirely reducing the risk for early childhood tooth decay.



Start



Week 1



Week 2



Week 3



Week 4

**Breastfeeding increases the risk for caries**

**MYTH**

# Breastfeeding is protective and generally associated with lower risk for ECC.

## Module 4

### Feeding Practices



- Breast feeding is best. Be sure baby swallows the milk before falling asleep, so the milk does not stay on the teeth.
- Give breast fed babies vitamin D\* (ask nurse or doctor). Remember teeth are still developing and need vitamin D.
- Clean baby's mouth after breast feeding or bottle feeding. Early Childhood Tooth Decay bacteria (germs) like both breast milk and formula.
- If teeth are not cleaned daily, most food and drinks can lead to Early Childhood Tooth Decay.

\* supplements may be necessary

## HEALTHY SMILE HAPPY CHILD

*Caring for Teeth and Preventing  
Early Childhood Tooth Decay*

A Manual for Training Community Health Promoters



# Evidence

Vol. XX • Issue X

Factors That Modify Risk of Early Childhood Caries

## REVIEWS

# Systematic Review of Evidence Pertaining to Factors That Modify Risk of Early Childhood Caries

P. Moynihan<sup>1,2,3</sup>, L.M. Tanner<sup>3</sup>, R.D. Holmes<sup>1,2</sup>, F. Hillier-Brown<sup>4</sup>, A. Mashayekhi<sup>3</sup>, S.A.M. Kelly<sup>5</sup>, and D. Craig<sup>3</sup>

Vol. XX • Issue X

Factors That Modify Risk of Early Childhood Caries

titles and abstracts were screened by all reviewers, and interrater reliability was assessed qualitatively. Studies that apparently met the inclusion criteria or did not have enough information in the abstract to inform a decision underwent independent duplicate screening of the full article. Differences between reviewers were resolved by discussion and by a third reviewer where consensus could not be reached. Data extraction was undertaken by 1 reviewer and checked by a second. Evidence was grouped according to the 12 review questions and each organized by study type, according to the hierarchy—systematic review, RCT, cohort/case-control (and other interventions; e.g., quasi-experimental studies), cross-sectional, and ecologic—to enable a pragmatic data synthesis of the “best available evidence” (Petticrew and Roberts 2006). For each research question, the highest level of evidence retrieved was used for evidence synthesis and, where appropriate, meta-analysis. Meta-analysis and forest plots of data that could be pooled were created with RevMan 5.3 software (Cochrane Collaboration). Evidence was also reported narratively. When data from the highest level of evidence were scant, the next level of evidence was referred to narratively.

### Quality Assessment

Risk of bias for individual studies was assessed with the Cochrane “risk of bias” tool for RCTs (Cochrane Collaboration) and the ROBINS-I for nonrandomized trials and all other studies (Cochrane Collaboration). The Grading of Recommendations, Assessment, Development, and Evaluation (GRADE; Atkins et al. 2004) was used to assess the quality of the overall body of evidence in relation to each review question, based on the WHO’s (2014) *Handbook for Guideline Development*. The quality of the evidence was categorized as high, moderate, low, or very low. The GRADE assessment was conducted by using GRADEpro software. The GRADE method classifies observational studies

as “low quality,” and upgrading to a higher level requires evidence of a large effect size or a dose response. RCTs are classified as “high quality,” but in some instances, the GRADE method requires downgrading of evidence if there is serious risk of bias, imprecision, inconsistency of results, or indirectness or if publication bias is likely.

### Results

Figure 1 presents the PRISMA flowchart. In total 13,831 papers were retrieved, reducing to 9,449 following de-duplication. Of those, 627 full papers were retrieved and screened—after which, 137 (133 studies) were eligible for inclusion and 493 were excluded. The reasons for exclusions are provided in Figure 1 and Appendix Table 1. A breakdown of the number of studies for each main research question is presented in Appendix Table 2. Information from the data extraction, for each paper identified as the highest level of evidence retrieved for each question, is presented in Appendix Table 3. The results, by research question, are presented here, and a summary of the highest-level evidence pertaining to each question is provided in Table 2. The GRADE evidence profiles are presented in Appendix Tables 4 to 13.

### Question 1

Does breastfeeding beyond 1 y increase the risk of ECC as compared with breastfeeding until <1 y of age?

Twenty-one studies had data that enabled comparison of dental caries in children breastfed beyond 1 y and <1 y of age. Of these, 1 was a case-control study, and 19 were cross-sectional. The highest level of evidence came from 1 prospective cohort study (Peres et al. 2017). This study showed no significant difference in severity of caries at 5 y between children breastfed up to 23 mo and those breastfed up to 1 y. Overall rating for risk of bias for this study was moderate. In relation to confounding,

all participants entered the study at the same time. Additionally, fluoridated area and sugars intake were controlled for. A GRADE evidence profile analysis of these data, which showed no increased risk of ECC with breastfeeding up to 23 mo, classified the evidence as low quality. This finding was supported by the next level of evidence: a case-control study in which multivariate analysis indicated that breastfeeding >13 mo versus <12 mo was not predictive of high dmft. Moreover, of the 19 cross-sectional studies, 9 included multivariate analysis to explore an independent effect of breastfeeding up to 2 y versus up to 1 y. Six of 9 studies showed that breastfeeding up to 24 mo of age was not a primary risk factor for ECC (Appendix Table 14).

### Question 2

Does breastfeeding beyond 1 y increase the risk of ECC as compared with cow’s (or similar) milk consumption as the main milk source from 1 y of age?

No studies were identified that had data to enable risk of ECC to be compared between children breastfed beyond 1 y and children who consumed cow’s milk as the main source of milk.

### Question 3

Does breastfeeding beyond 2 y increase the risk of ECC as compared with breastfeeding until <2 y of age?

Eight studies provided data that enabled levels of ECC to be compared when breastfeeding extended beyond 2 y of age as compared with when it ceased by age 2 y: 2 cohort studies, 1 case-control study, and 5 cross-sectional studies. The highest-level evidence was the cohort studies (Chaffee et al. 2014; Peres et al. 2017). Peres et al. (2017) showed that breastfeeding beyond 2 y of age increased caries risk, demonstrating a large effect size. However, Chaffee et al. (2014) found a nonsignificant trend toward increased prevalence of ECC with breastfeeding at 24 mo and beyond as

# However, prolonged breastfeeding may actually increase risk

## ORAL HEALTH

### Total Breast-Feeding Duration and Dental Caries in Healthy Urban Children



*Peter D. Wong, MBBS, PhD; Catherine S. Birken, MD, MSc; Patricia C. Parkin, MD, MSc; Isvarya Venu, MSc; Yang Chen, MSc; Robert J. Schroth, DMD, PhD; Jonathon L. Maguire, MD, MSc; on behalf of the TARGet Kids! Collaboration*

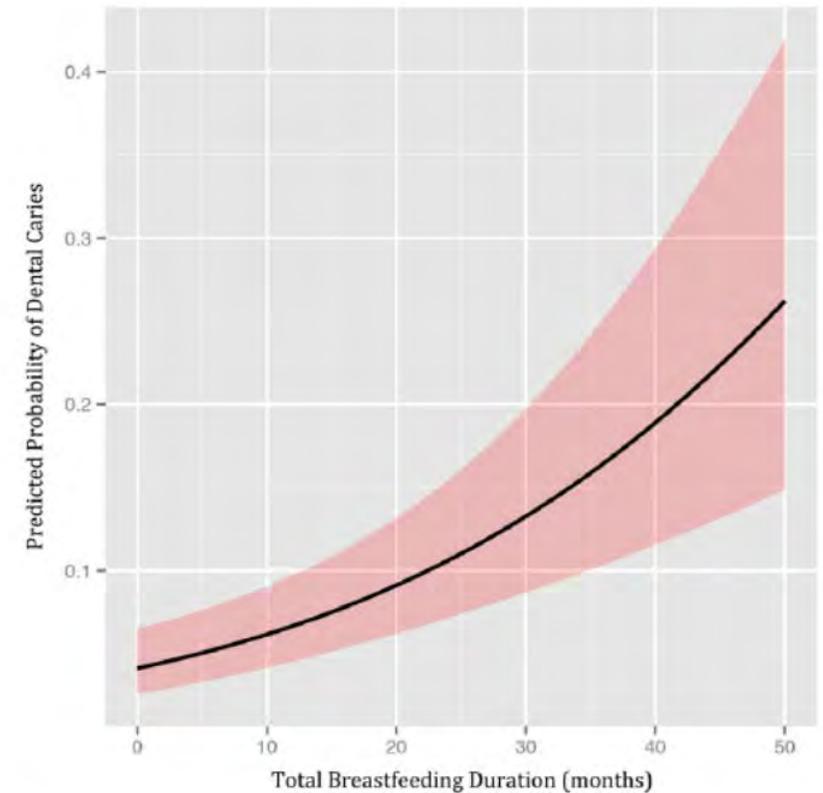
From the Division of Paediatric Medicine, Department of Paediatrics, Faculty of Medicine, University of Toronto, Toronto, Canada (Drs Wong, Birken, Parkin, Maguire); SickKids Research Institute, Toronto, Canada (Drs Wong, Birken, Parkin); Li Ka Shing Knowledge Institute of St Michael's Hospital, Toronto, Canada (Mr Chen and Dr Maguire); Trinity College, University of Dublin, Dublin, Ireland (Ms Venu); and Department of Preventive Dental Science, College of Dentistry and Department of Pediatrics and Child Health, University of Manitoba (Dr Schroth), Winnipeg, Canada

Members of the TARGet Kids! Collaboration are listed in the Acknowledgments.

Conflict of Interest: The authors declare that they have no conflict of interest.

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**Figure.** Predicted probability of dental caries. Plot generated from adjusted logistic regression model. Solid line represents adjusted predicted probability of developing dental caries as function of total breast-feeding duration. Shaded area represents 95% confidence intervals for predicted probabilities.

**Table 2. Association Between Total Breast-feeding Duration and Dental Caries**

Characteristic	Unadjusted OR (95% CI; P)	Adjusted OR (95% CI; P)
Total breast-Feeding duration (per month)	1.04 (1.02–1.06; <.001)*	1.04 (1.02–1.06; <.001)*
Total breast-feeding duration:		
0–5 mo (reference)	...	...
6–11 mo	1.06 (0.69–1.62; .80)	1.17 (0.73–1.88; .50)
12–23 mo	1.21 (0.82–1.80; .34)	1.52 (0.97–2.38; .07)
≥24 mo	2.75 (1.69–4.48; <.001)*	2.75 (1.61–4.72; <.001)*
Age, (mo)	1.07 (1.06–1.08; <.001)*	1.07 (1.05–1.08; <.001)*
Maternal age, y	0.98 (0.95–1.01; .24)	0.96 (0.93–1.00; .04)*
Birth weight, kg	1.10 (0.88–1.37; .39)	1.10 (0.86–1.40; .46)
Ethnicity		
European (reference)	...	...
East Asian	2.32 (1.51–3.57; <.001)*	2.39 (1.49–3.84; <.001)*
South Asian	0.93 (0.47–1.82; .83)	0.64 (0.30–1.37; .25)
Southeast Asian	2.41 (1.29–4.50; .01)*	2.15 (1.03–4.50; .04)*
Other	0.95 (0.64–1.43; .81)	0.92 (0.58–1.45; .72)
High school/public school	1.35 (0.86–2.12; .20)	1.17 (0.67–2.05; .57)
Sex, male	1.27 (0.97–1.66; .09)	1.34 (1.00–1.79; .05)*
Self-reported family income (Canadian \$)		
0–59,999	0.89 (0.63–1.27; .53)	0.97 (0.66–1.41; .86)
60,000–99,999	1.30 (0.84–1.99; .24)	1.23 (0.70–2.18; .47)
100,000–149,999	1.04 (0.67–1.61; .87)	0.88 (0.54–1.43; .60)
Over 150,000 (reference)	...	...
Single parent	1.61 (0.93–2.78; .09)	1.45 (0.75–2.82; .27)
Mother unemployed	1.25 (0.90–1.73; .18)	1.07 (0.72–1.57; .74)
Smoker at home	0.81 (0.51–1.31; .40)	0.72 (0.42–1.22; .21)
Bedtime bottle use	0.85 (0.53–1.37; .51)	1.47 (0.83–2.63; .19)
Only child	0.51 (0.35–0.75; <.001)*	0.77 (0.50–1.18; .24)
Sugar-sweetened beverage (cup)	1.16 (1.03–1.31; .01)*	0.98 (0.84–1.14; .79)
Snack (serving)	1.36 (1.18–1.56; <.001)*	1.15 (0.96–1.37; .12)

OR indicates odds ratio; and CI, confidence interval.

\*Statistically significant.

*Peter D. Wong, MBBS, PhD; Catherine S. Birken, MD, MSc; Patricia C. Parkin, MD, MSc; Isvarya Venu, MSc; Yang Chen, MSc; Robert J. Schroth, DMD, PhD; Jonathon L. Maguire, MD, MSc; on behalf of the TARGeT Kids! Collaboration*

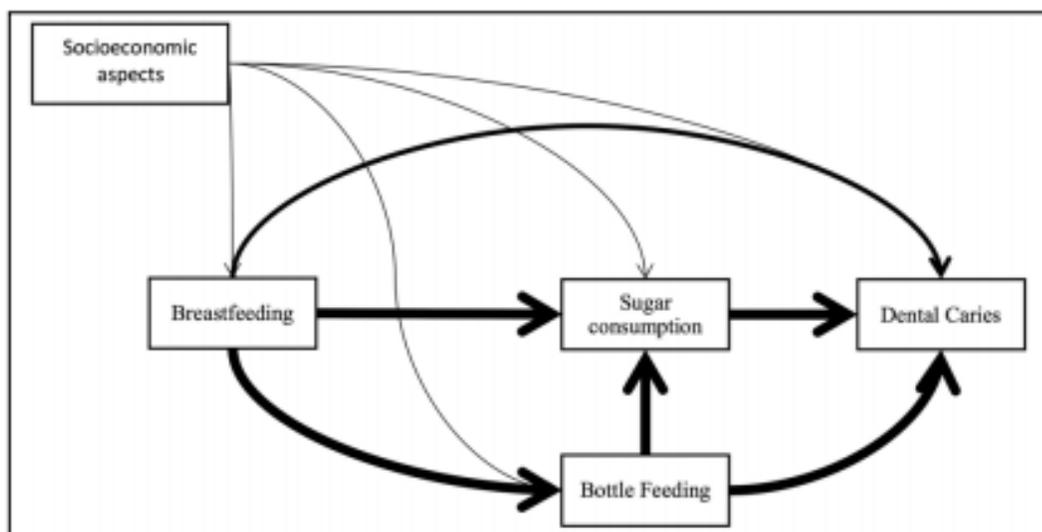
## Breastfeeding and Oral Health: Evidence and Methodological Challenges

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and A. Rugg-Gunn<sup>6</sup>

### Abstract

Breastfeeding is a powerful health-promoting behavior. A 2016 *Lancet* global collaboration to review the health implications of breastfeeding was among the first to consider oral health outcomes. While a role was suggested for breastfeeding in preventing malocclusion, caries was the only included disease condition unfavorably associated with breastfeeding. The present critical review examines the evidence connecting breastfeeding practices to these outcomes and discusses the methodological challenges inherent in reaching causal conclusions. Published systematic reviews show some evidence of a protective effect of breastfeeding against primary dentition malocclusion but no supportive evidence for mixed dentition and permanent dentition malocclusions. Regarding caries, well-conducted studies report a benefit with breastfeeding up to 12 mo but a positive association between caries and breastfeeding of longer duration, at times that vary between 12 and 24 mo, as well as nocturnal feeding. Future studies would be methodologically stronger if focused on specific malocclusion traits that are plausibly associated with sucking movements rather than using general malocclusion indices. Studies should use detailed and consistent terminology for breastfeeding definition, including frequency, intensity, and timing. Analytical studies should be carried out to distinguish between confounders (e.g., prematurity) and mediators (e.g., use of pacifier).



## Recommendations for Patients and Policy

Breastfeeding is the unquestioned optimal source of infant nutrition. Complete implementation of the WHO guidelines for breastfeeding has potential to reduce significantly child mortality and morbidity worldwide. However, evidence is less complete and consistent for breastfeeding to age 2 y or beyond (Delgado and Matijasevich 2013). Considering oral health, some evidence supports a protective effect of breastfeeding on primary dentition malocclusion. No consistent evidence is available for the mixed and permanent dentitions.

Breastfeeding duration, with studies suggesting longer than 12 mo (Tham et al. 2015), 18 mo (Tham et al. 2015), or 24 mo (Chaffee et al. 2014; Peres et al. 2017), increases caries risk, as does high frequency (Tham 2015). Clearly, replacement of breastfeeding with infant formula should not be recommended. However, recommendations to reduce frequent and nocturnal breastfeeding (Van Palestein Helderma et al. 2006; Nakayama and Mori 2015) from the second year of life may reduce caries risk without eroding beneficial breastfeeding.

# HSHC Resource

## Breastfeeding and Baby's Teeth



### WHY should I Breastfeed?

- Breastmilk is natural and the most nutritious food for your baby
- Breastfeeding helps your baby develop stronger jaw muscles and properly positioned teeth
- Health Canada recommends feeding your baby only breastmilk for the first 6 months, and continued breastfeeding, with appropriate complementary foods, for up to two years or beyond
- Breastfed babies may still develop tooth decay, so mouth care and healthy dental habits are important!

### HOW do I Keep Baby Teeth Healthy?

- Breastfed babies need daily Vitamin D3 drops (minimum 400 IU) to help develop strong teeth. If you live in a northern community ask your health care provider if your baby needs more Vitamin D.
- Wipe baby's gums with a clean and damp cloth  
Try:
  - after feeding
  - at bath time
  - before bed
- Brush baby's first tooth with a soft brush 2x a day
- Lift your child's lip at least once a month to check their teeth. Chalky white lines or brown spots along the gum line is the start of tooth decay!

**Did You Know?**  
Bring your baby for a dental visit by their first birthday!



### How Much Toothpaste Should I Use?

**Children from birth to 3 years:** ask your dental team if your child is at risk for tooth decay\*

- If child is at risk: use a small amount (the size of a grain of rice) of fluoride toothpaste
- If child is not at risk: only use water



A rice grain-sized amount of toothpaste

\*A child may be at risk of early childhood tooth decay if the child: is living in an area with non-fluoridated water, has white chalky areas or cavities, has lots of sugary snacks/drinks between meals, teeth are not brushed daily, or caregiver has tooth decay.

Picture downloaded from: [http://www.cda-cc.ca/\\_files/policies\\_statements/Fluoride-English-2010-06-08.pdf](http://www.cda-cc.ca/_files/policies_statements/Fluoride-English-2010-06-08.pdf)

References Available Upon Request



Healthy Smile Happy Child 2008. Revised September 2014

**Baby teeth do not matter as they fall out anyways**

**MYTH**

- Caries during early childhood is a strong predictor of future caries risk (Scottish Intercollegiate Guidelines 2014, Mejare, Axelsson et al. 2014, Zero, Fontana et al. 2001)
- Incidence of new or recurrent decay high among children receiving dental treatment for ECC (Foster, Perinpanayagam et al. 2006, Amin, Bedard et al. 2010, Almeida, Roseman et al. 2000)
- Children who receive early preventive dental care are more likely to receive preventive dental care and have lower future dental treatment costs (Lee, Bouwens et al. 2006)

# Impact of ECC on Health & Well-being

## Oral Health of Indigenous Children and the Influence of Early Childhood Caries on Childhood Health and Well-being

Robert J. Schroth, DMD, MSc<sup>a,b,\*</sup>,  
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### KEYWORDS

• Dental caries • Early childhood caries • Health services  
• Indigenous • North America • Health promotion • Indians

Dental caries in Indigenous children is a child health issue that is multifactorial in origin and strongly influenced by the determinants of health. The evidence, although generally of a lower quality, suggests that extensive dental caries has an effect on health and well-being of the young child. Although counseling about dietary practices and tooth brushing and interventions involving fluoride show promise in reducing the severity of early childhood caries (ECC), the level of evidence for each is variable. Combined approaches are recommended. This article focuses on ECC as an overall proxy for Indigenous childhood oral health, because decay during early life sets the foundation

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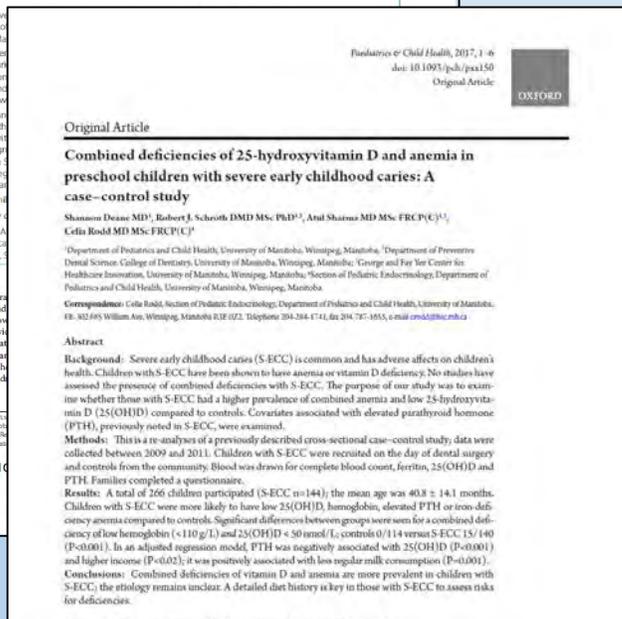
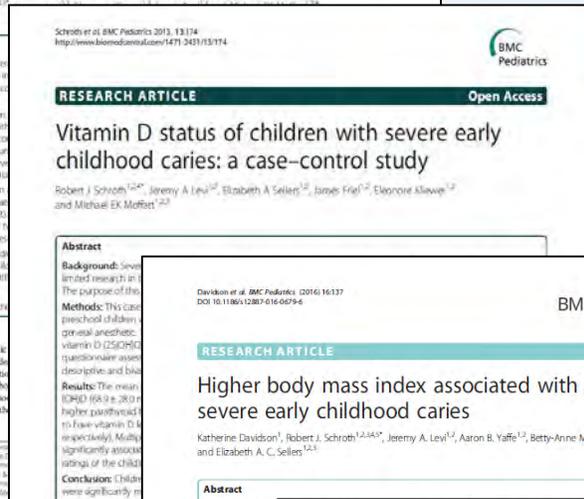
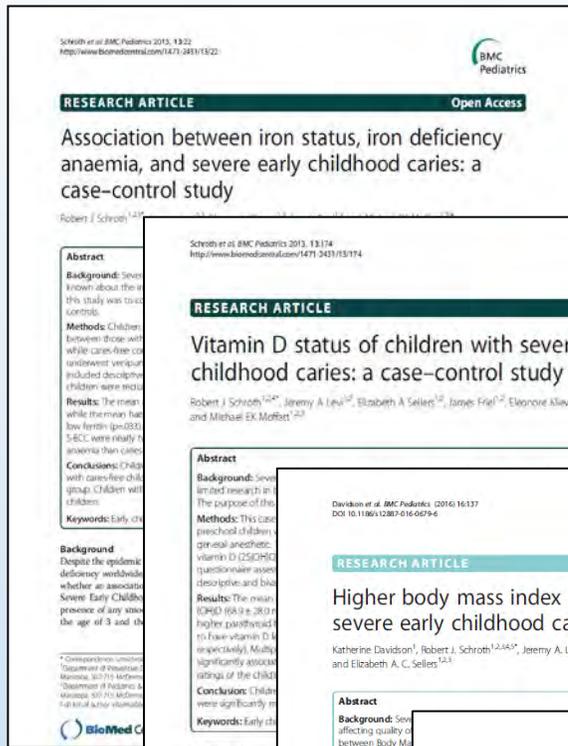
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- Growth & Development
  - Speech development
  - Height
  - Weight and Body Mass Index (BMI)
- Common Pediatric Illnesses & Conditions
  - Otitis media
  - Respiratory tract infections
  - Iron deficiency
- Quality of Life
  - Eating patterns
  - Pain
  - Sleep
  - Behaviour

# Impact Health & Well-being in Children in Manitoba



- Severe Early Childhood Caries (**S-ECC**) is a rampant type of ECC. Frequently, children with S-ECC require dental surgery in the operating room under general anesthesia (**GA**)
- Dental Surgery to treat S-ECC is the most common pediatric day surgical procedure in Canada
- Children with S-ECC have been reported to be associated with:
  - a) malnutrition, including anemia
  - b) iron deficiency
  - c) iron deficiency anemia
  - d) vitamin D deficiency
  - e) Combined vitamin D and anemia
  - f) Higher BMI z-scores
- S-ECC is known to affect childhood health and well-being

The first dental visit should wait until all baby teeth are erupted



MYTH

# Early Visits to the Dentist

Thanks for helping  
to take care of my smile.



*Help me celebrate my first birthday  
with a trip to the dentist.*

Healthy Smile Happy Child, (The Manitoba Collaborative Project for the Prevention of Early Childhood Tooth Decay), 2008.  
This poster made possible with support of the Children's Hospital Foundation of Manitoba Inc.

- The Canadian Dental Association encourages dental assessments of infants **within 6 months of the eruption of the first tooth or by one year (12 months) of age**
- At the first dental visit, the infant's risk of caries should be assessed and discussed with a parent or caregiver
- The goal is to have children visit the dentist before there is a problem
- Establishment of a dental home

## Factors Associated With Dental Care Utilization in Early Childhood

**AUTHORS:** Denise Darmawikarta, MPH,<sup>1</sup> Yang Chen, MA, MSc,<sup>2</sup> Sarah Carsley, MSc,<sup>3</sup> Catherine S. Birken, MD, MSc, FRCP(C),<sup>4</sup> Patricia C. Parkin, MD, FRCP(C),<sup>5</sup> Robert J. Schrott, DMD, PhD,<sup>6</sup> and Jonathan L. Maguire, MD, MSc, FRCP(C)<sup>7</sup> on behalf of the IMRNet Kids! Collaboration

<sup>1</sup>The Applied Health Research Centre of the Li Ka Shing Knowledge Institute at St. Michael's Hospital, <sup>2</sup>Departments of Pediatrics, St. Michael's Hospital, and <sup>3</sup>Pediatrics, Faculty of Medicine, University of Toronto, Toronto, Ontario, Canada; <sup>4</sup>Pediatrics Outcomes Research Team, Division of Paediatric Medicine, Department of Paediatrics, The Hospital for Sick Children, Toronto, Ontario, Canada; and <sup>5</sup>Department of Preventive Dental Science, Faculty of Dentistry, University of Manitoba, Winnipeg, Manitoba, Canada

**KEY WORDS:** dental care, oral health, children, prevention, dental caries

**ABBREVIATIONS:** AAP—American Academy of Pediatrics

CI—95% confidence interval

EC—early childhood caries

OR—odds ratio

Ms Darmawikarta conceptualized and designed the study, designed the data collection instruments, analyzed and interpreted the data, performed statistical analysis, and drafted the manuscript. Mr Yang designed the data collection instruments, conceptualized and designed the study, analyzed and interpreted the data, and critically reviewed the final manuscript. Ms Carsley designed the data collection instruments, conceptualized and designed the study, analyzed and interpreted the data, and critically reviewed the final manuscript. Dr Birken conceptualized and designed the study, designed the data collection instruments, analyzed and interpreted the data, and critically reviewed the manuscript for important intellectual content. Dr Parkin conceptualized and designed the study, designed the data collection instruments, analyzed and interpreted the data, and critically reviewed and reviewed the manuscript for important intellectual content. Dr Schrott conceptualized and designed the study, designed the data collection instruments, analyzed and interpreted the data, drafted the manuscript, and critically reviewed and reviewed the manuscript for important intellectual content, and all authors approved the final manuscript as submitted.

(Continued on last page)

**WHAT'S KNOWN ON THIS SUBJECT:** Early preventive dental care is cost-effective and can reduce subsequent restorative or emergency visits. Little is known about the factors distinguishing families who receive dental care in early childhood and those who do not.

**WHAT THIS STUDY ADDS:** Our results suggest that among healthy children seen by primary care providers, those most in need of dental care are least likely to receive it. This highlights the importance of promoting early preventive dental care in the primary care setting.

### abstract

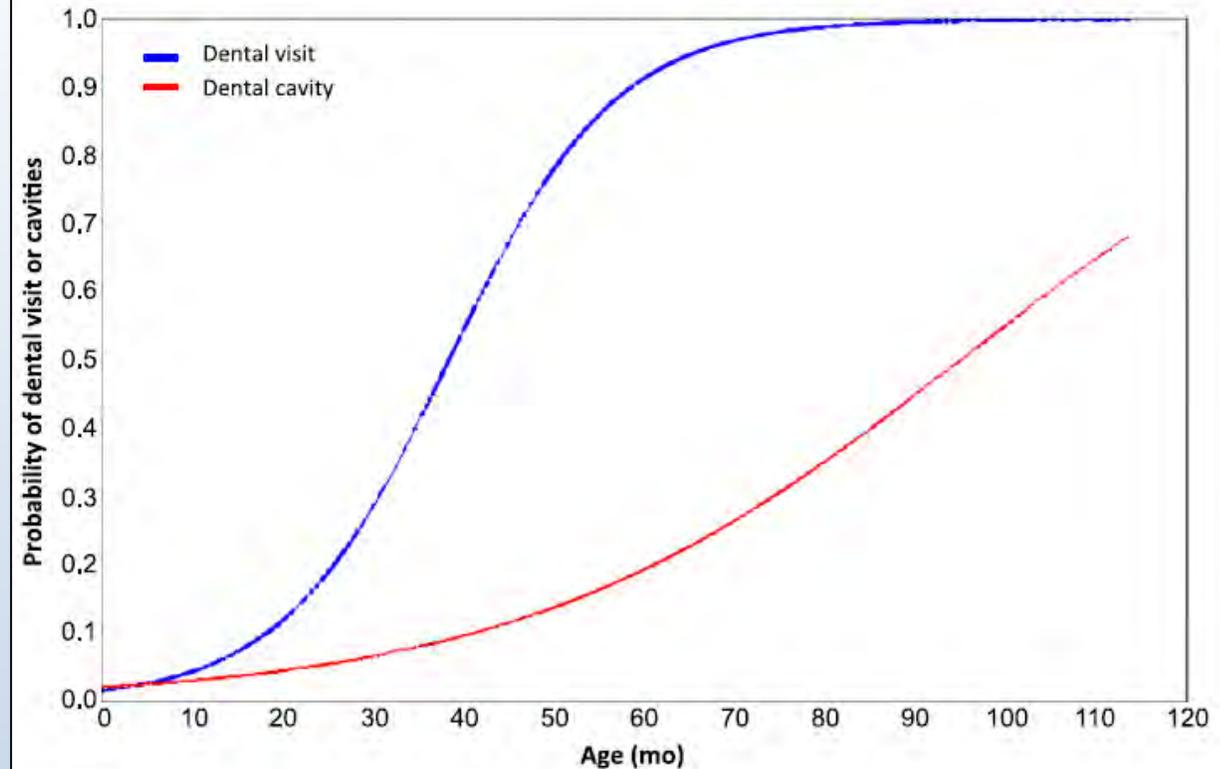
**OBJECTIVES:** To identify sociodemographic, dietary, and biological factors associated with families who do not receive dental care in early childhood and to identify risk factors associated with having cavities among children who receive early dental care.

**METHODS:** A cross-sectional study of healthy Canadian children seen for primary health care between September 2011 and January 2013 was conducted through the TARGet Kids! practice-based research network in Toronto, Canada. Adjusted logistic regression was used to determine factors associated with children who were not seen by a dentist in early childhood and to determine risk factors associated with having dental cavities among children who received early dental care.

**RESULTS:** Of the 2505 children included in the analysis, <1% were seen by a dentist by 1 year of age. Older children were less likely to have never been to the dentist (odds ratio [OR], 0.88; 95% confidence interval [CI], 0.87–0.90). Low family income (OR, 2.73; 95% CI, 1.47–5.06), prolonged bottle use (OR, 1.43; 95% CI, 1.03–2.00), and higher intakes of sweetened drinks (OR, 1.20; 95% CI, 1.01–1.42) were associated with increased risk for never having been to the dentist. Among those who had been to the dentist, older children (OR, 1.04; 95% CI, 1.03–1.05), children of low income families (OR, 1.90; 95% CI, 1.17–3.10), and those of East Asian maternal ethnicity (OR, 1.91; 95% CI, 1.10–3.29) were more likely to have dental cavities.

**CONCLUSIONS:** Among healthy urban children seen by a primary care provider, those most susceptible to cavities were least likely to receive early dental care. These findings support the need for publicly funded universal early preventive dental care and underscore the importance for primary care physicians to promote dental care in early childhood.

*Pediatrics* 2014;133:1–7



**FIGURE 2**

Probability of dental visit or cavities by age. The blue line represents the probability of having at least 1 dental visit as a function of age. The red line represents the probability of having at least 1 dental cavity as a function of age.

- < 1% seen by dentist by recommended 1 year of age
- 1.9% seen by dentist by 2 years of age
- Factors associated with utilization: older child (OR=0.88), low family income (OR=2.73), prolonged bottle use (OR=1.43), increased intake of sweetened drinks (OR=1.20)

# MDA'S Free First Visit Program (FFV)

- FFV program launched April 1, 2010 for a three year initiative
- In 1993 the MDA first introduced the concept of a First Dental Visit program
- The MDA engaged dentists and dental offices to prepare and equip them to provide FFVs
- FFV program was marketed to the public through media and even advertising on transit buses
- Encourages dental homes for young children



Call your Dentist today or visit  
[ManitobaDentist.ca](http://ManitobaDentist.ca)

IT'S FREE IF YOU'RE  
UNDER THREE!



Teeth are most resistant to decay when  
they first erupt

**MYTH**

- Teeth are LESS resistant to caries when they first erupt into the mouth and become more resistant over time!

Dental caries is a dynamic disease process that involves repeated cycles of demineralization and remineralization throughout the day<sup>27,29</sup>. Teeth are most susceptible to caries when they first erupt in the mouth and over time become more resistant to subsequent acid challenge. The clinical implication is that there should be greater focus on monitoring the caries status of teeth and delivering preventive care during the periods when teeth are erupting.

Pitts et al. Dental caries. Nature Review 2017



**Only Fluoride-free training toothpastes  
are recommended for children under 6**

**MYTH**

# Change in practice:

- Children can benefit from fluoridated toothpaste
- Children at high-risk for caries needing toothpaste at early ages include:
  - Living in a community with non-fluoridated water supply or low natural fluoride levels (< 0.3 ppm),
  - Enamel defects, incipient caries (i.e. white chalky spots), or cavities,
  - Frequent intake of sugary snacks/drinks between meals (including bottle or sippy cup containing liquids other than water and sweetened medications),
  - Special health care needs that limit cooperation with brushing and oral hygiene,
  - Teeth are not brushed daily,
  - Premature birth and low birth weight,
  - Parent or caregiver has tooth decay,
  - Visible plaque on teeth.



## BRUSH BABY TEETH!



**S**tart brushing with fluoride toothpaste when the first tooth comes in  
**A**dults should put toothpaste on toothbrush for young children  
**F**luoride protects your child's teeth from decay  
**E**ncourage and help your child brush 2 times a day: morning and night



### Age 0-3 Years

Use a rice-grain sized amount of toothpaste with fluoride - if child is at risk for tooth decay\*



### Age 3-6 Years

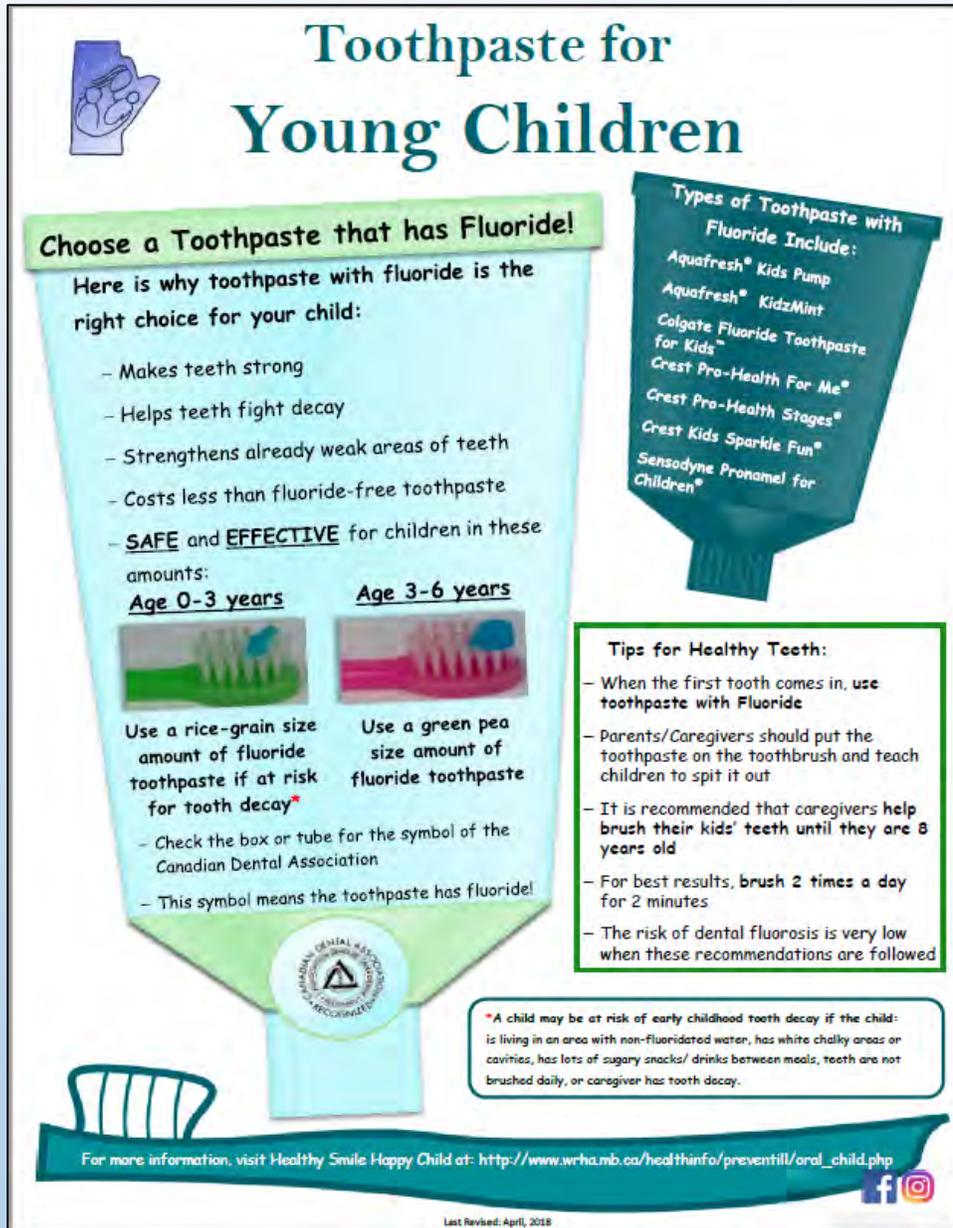
Use a green pea sized amount of toothpaste with fluoride

- After brushing put toothpaste in a place where children can't reach
- Make brushing time family time
- Help your child brush their teeth until 8 years old
- Choose healthy foods from the 4 food groups for meals and snacks

\*Some risk factors of early childhood tooth decay include if the child: is living in an area with non-fluoridated water, has visible plaque, has white chalky areas or cavities on teeth, has many sugary snacks/drinks between meals, teeth are not brushed daily, caregiver has tooth decay.



# Type of Toothpaste Matters



## Toothpaste for Young Children

**Choose a Toothpaste that has Fluoride!**

Here is why toothpaste with fluoride is the right choice for your child:

- Makes teeth strong
- Helps teeth fight decay
- Strengthens already weak areas of teeth
- Costs less than fluoride-free toothpaste
- **SAFE** and **EFFECTIVE** for children in these amounts:

Age 0-3 years	Age 3-6 years
 Use a rice-grain size amount of fluoride toothpaste if at risk for tooth decay*	 Use a green pea size amount of fluoride toothpaste

- Check the box or tube for the symbol of the Canadian Dental Association
- This symbol means the toothpaste has fluoride!

**Types of Toothpaste with Fluoride Include:**

- Aquafresh® Kids Pump
- Aquafresh® KidzMint
- Colgate Fluoride Toothpaste for Kids™
- Crest Pro-Health For Me®
- Crest Pro-Health Stages®
- Crest Kids Sparkle Fun®
- Sensodyne Pronamel for Children®

**Tips for Healthy Teeth:**

- When the first tooth comes in, use toothpaste with Fluoride
- Parents/Caregivers should put the toothpaste on the toothbrush and teach children to spit it out
- It is recommended that caregivers help brush their kids' teeth until they are 8 years old
- For best results, brush 2 times a day for 2 minutes
- The risk of dental fluorosis is very low when these recommendations are followed

\*A child may be at risk of early childhood tooth decay if the child: is living in an area with non-fluoridated water, has white chalky areas or cavities, has lots of sugary snacks/ drinks between meals, teeth are not brushed daily, or caregiver has tooth decay.

For more information, visit Healthy Smile Happy Child at: [http://www.wrha.mb.ca/healthinfo/preventill/oral\\_child.php](http://www.wrha.mb.ca/healthinfo/preventill/oral_child.php)

Last Revised: April, 2018

- Fluoride toothpaste is a good thing, as teeth are less resistant to caries when they first erupt into the mouth and become more resistant over time

Pitts et al. Dental caries. Nature Review 2017

- Be aware of training toothpastes or fluoride-free toothpastes

# Fluoridated Toothpaste



- **Birth to 3 years of age:** If child is at risk\*, use a **rice grain-sized** amount of fluoride toothpaste
  - **3 to 6 years of age:** use a **green pea-sized** amount of fluoride toothpaste
- \*Risk of ECC includes if the child:**
- is living in an area with non-fluoridated water,
  - has white chalky areas or cavities on teeth,
  - has lots of sugary snacks/drinks between meals,
  - teeth are not brushed daily,
  - caregiver has tooth decay.

# Clinical Recommendations for Use of Professionally-Applied or Prescription-Strength, Home-Use Topical Fluoride Agents for Caries Prevention in Patients at Elevated Risk of Developing Caries<sup>1</sup>

**Strength of recommendations:** Each recommendation is based on the best available evidence. The level of evidence available to support each recommendation may differ.

 <b>Strong</b> Evidence strongly supports providing this intervention	 <b>In favor</b> Evidence favors providing this intervention	 <b>Weak</b> Evidence suggests implementing this intervention only after alternatives have been considered	 <b>Expert Opinion For</b> Evidence is lacking; the level of certainty is low. Expert opinion guides this recommendation	 <b>Expert Opinion Against</b> Evidence is lacking; the level of certainty is low. Expert opinion suggests not implementing this intervention	 <b>Against</b> Evidence suggests not implementing this intervention or discontinuing ineffective procedures
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Age Group or Dentition Affected	Professionally-Applied Topical Fluoride Agent	Prescription-Strength, Home-Use Topical Fluoride Agent
<b>Younger than 6 years</b>	2.26% fluoride varnish at least every 3 to 6 months ● <b>In Favor</b>	
<b>6-18 years</b>	2.26% fluoride varnish at least every 3 to 6 months ● <b>In Favor</b> OR 1.23% fluoride (APF*) gel for 4 minutes at least every 3 to 6 months ● <b>In Favor</b>	0.09% fluoride mouthrinse at least weekly ● <b>In Favor</b> OR 0.5% fluoride gel or paste twice daily ● <b>Expert Opinion For</b>
<b>Older than 18 Years</b>	2.26% fluoride varnish at least every 3 to 6 months ● <b>Expert Opinion For</b> OR 1.23% fluoride (APF*) gel for 4 minutes at least every 3 to 6 months ● <b>Expert Opinion For</b>	0.09% fluoride mouthrinse at least weekly ● <b>Expert Opinion For</b> OR 0.5% fluoride gel or paste twice daily ● <b>Expert Opinion For</b>
<b>Adult Root Caries</b>	2.26% fluoride varnish at least every 3 to 6 months ● <b>Expert Opinion For</b> OR 1.23% fluoride (APF*) gel for 4 minutes at least every 3 to 6 months ● <b>Expert Opinion For</b>	0.09% fluoride mouthrinse daily ● <b>Expert Opinion For</b> OR 0.5% fluoride gel or paste twice daily ● <b>Expert Opinion For</b>

**Additional Information:**

- 0.1% fluoride varnish, 1.23% fluoride (APF\*) foam, or prophylaxis pastes are not recommended for preventing coronal caries in all age groups (● **Expert Opinion Against** or ● **Against**). See JADA publication for recommendation strength by age group.<sup>1</sup> The full report, which includes more details, is available at ebd.ada.org.
- No prescription-strength or professionally-applied topical fluoride agents except 2.26% fluoride varnish are recommended for children younger than 6 years (● **Expert Opinion Against** or ● **Against**), but practitioners may consider the use of these other agents on the basis of their assessment of individual patient factors that alter the benefit-to-harm relationship.
- Prophylaxis before 1.23% fluoride (APF\*) gel application is not necessary for coronal caries prevention in all age groups (● **Expert Opinion Against** or ● **Against**). See JADA publication for recommendation strength by age group.<sup>1</sup> No recommendation can be made for prophylaxis prior to application of other topical fluoride agents. The full report, which includes more details, is available at ebd.ada.org.

\*APF: Acidulated phosphate fluoride

**Patients at low risk of developing caries may not need additional topical fluorides other than over-the-counter fluoridated toothpaste and fluoridated water.**

<sup>1</sup> 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. JADA 2013;144(11):1279-1291. © 2013 American Dental Association. All rights reserved. Any other use, copying, or distribution, whether in printed or electronic format, is strictly prohibited without the prior written consent of the ADA.

**Toddlers are old enough to brush their  
own teeth**

**MYTH**

Thanks for taking care  
of my first tooth.



*I need you to show me how to brush  
my teeth until I am 8 years old.*

**FACT**

- Brushing should continue to be done by an adult until the child has the dexterity to properly brush on his/her own
  - About 8 years of age
- Do not discourage child from brushing on his/her own, but make sure parents to brush again afterwards

**Water fluoridation does not benefit the  
primary dentition**

**MYTH**

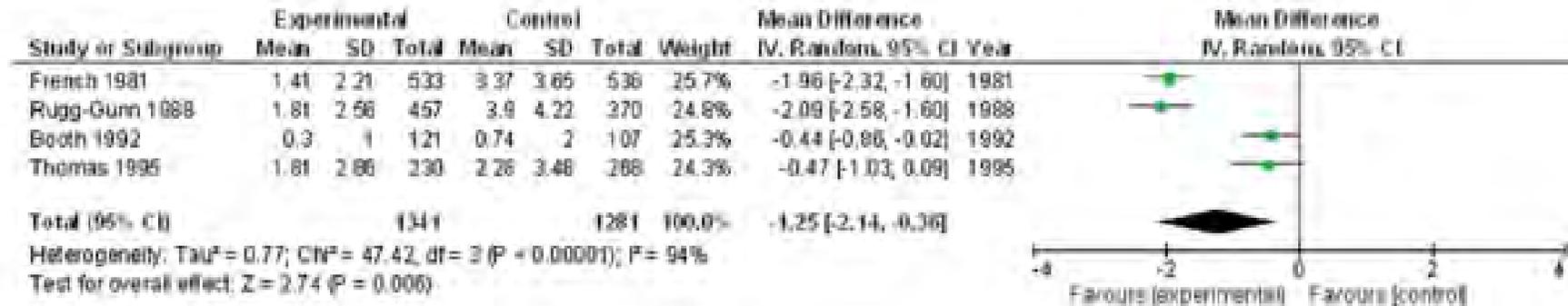
## REVIEWS

# Systematic Review of Evidence Pertaining to Factors That Modify Risk of Early Childhood Caries

P. Moynihan<sup>1,2,3</sup>, L.M. Tanner<sup>3</sup>, R.D. Holmes<sup>1,2</sup>, F. Hillier-Brown<sup>4</sup>, A. Mashayekhi<sup>3</sup>, S.A.M. Kelly<sup>5</sup>, and D. Craig<sup>3</sup>

Month 2019

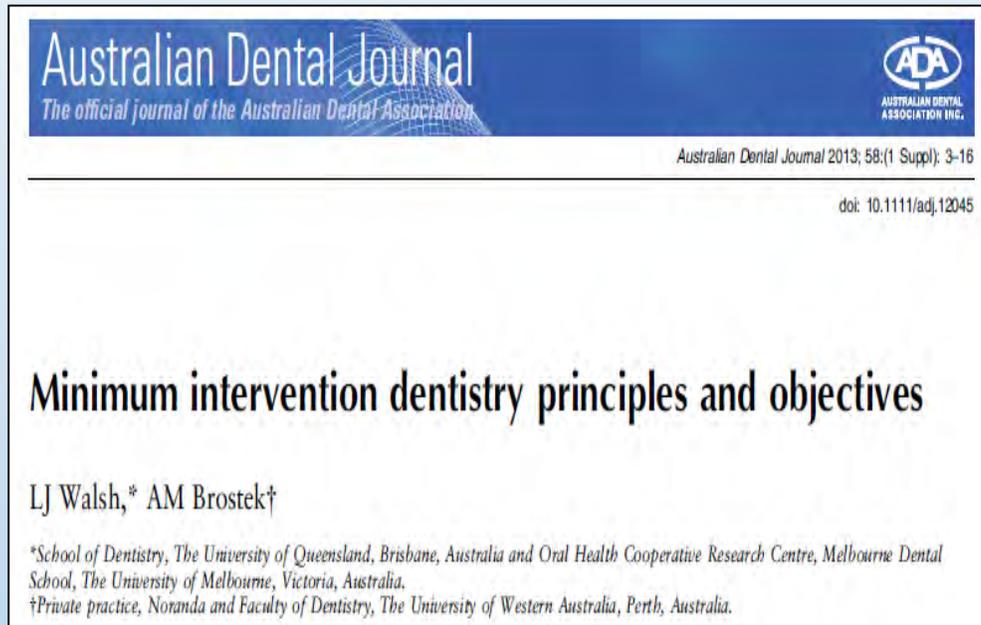
**Figure 3.** Meta-analysis of data from cohort studies pertaining to question 10: Does an optimum concentration of fluoride in water reduce the risk of early childhood caries? Mean difference (random effect).



Every tooth with decay needs to be filled/fixed

**MYTH**

# Minimum Intervention Dentistry (MID)



- Minimum intervention dentistry is the modern medical approach to the management of caries, utilizing caries risk assessment, and focusing on the early prevention and interception of disease.
- Moving the focus away from the restoration of teeth allows the dentist to achieve maximum intervention, with minimal invasive treatments.

Walsh LJ and Brostek AM 2013

# ADA Evidence-based clinical practice guideline on nonrestorative treatments for carious lesions

**Practice Guidelines**

**Cover Story**

**Evidence-based clinical practice guideline on nonrestorative treatments for carious lesions**

A report from the American Dental Association

Rebecca L. Slayton, DDS, PhD; Olivia Urquhart, MPH; Marcelo W.B. Araujo, DDS, MS, PhD; Margherita Fontana, DDS, PhD; Sandra Guzmán-Armstrong, DDS, MS; Marcelle M. Nascimento, DDS, MS, PhD; Brian B. Nový, DDS; Norman Tinanoff, DDS, MS; Robert J. Weyant, DMD, DrPH; Mark S. Wolff, DDS, PhD; Douglas A. Young, DDS, EdD, MS, MBA; Domenick T. Zero, DDS, MS; Malavika P. Tampl, MPH; Lauren Pilcher, MSPH; Laura Banfield, MLIS, MHS; Alonso Carrasco-Labra, DDS, MSc

**ABSTRACT**

**Background.** An expert panel convened by the American Dental Association Council on Scientific Affairs and the Center for Evidence-Based Dentistry conducted a systematic review and formulated evidence-based clinical recommendations for the arrest or reversal of noncavitated and cavitated dental caries using nonrestorative treatments in children and adults.

**Types of Studies Reviewed.** The authors conducted a systematic search of the literature in MEDLINE and Embase via Ovid, Cochrane CENTRAL, and Cochrane database of systematic reviews to identify randomized controlled trials reporting on nonrestorative treatments for non-cavitated and cavitated carious lesions. The authors used the Grading of Recommendations Assessment, Development and Evaluation approach to assess the certainty in the evidence and move from the evidence to the decisions.

**Results.** The expert panel formulated 11 clinical recommendations, each specific to lesion type, tooth surface, and dentition. Of the most effective interventions, the panel provided recommendations for the use of 38% silver diamine fluoride, sealants, 5% sodium fluoride varnish, 1.23% acidulated phosphate fluoride gel, and 5,000 parts per million fluoride (1.1% sodium fluoride) toothpaste or gel, among others. The panel also provided a recommendation against the use of 10% casein phosphopeptide–amorphous calcium phosphate.

**Conclusions and Practical Implications.** Although the recommended interventions are often used for caries prevention, or in conjunction with restorative treatment options, these approaches have shown to be effective in arresting or reversing carious lesions. Clinicians are encouraged to prioritize use of these interventions based on effectiveness, safety, and feasibility.

**Key Words:** Carious lesion; American Dental Association; practice guidelines; evidence-based dentistry; decision making; general practice; clinical recommendations; nonrestorative treatments; caries.

JADA 2018;149(10):837-849  
<https://doi.org/10.1016/j.adaj.2018.07.002>

Dental caries is a chronic noncommunicable disease that affects people of all ages worldwide. From 2015 through 2016, approximately 4 of 10 young children<sup>1</sup> and from 2011 through 2012 9 of 10 adults<sup>2</sup> were affected by caries in the United States. Although in the past decade overall caries prevalence has stabilized in both children and adults, these rates remain at a constant high for specific subgroups. According to the 2011-2012 National Health and Nutrition Examination Survey, non-Hispanic white adults aged 20 through 64 years have the highest caries prevalence rates (94%) compared with those of Hispanic, non-Hispanic black, and non-Hispanic Asian adults.<sup>3</sup> The 2015-2016 National Health and Nutrition Examination Survey data show

This article has an accompanying online continuing education activity available at <http://jada.ada.org/ce/home>.

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JADA 149(10) • <http://jada.ada.org> • October 2018

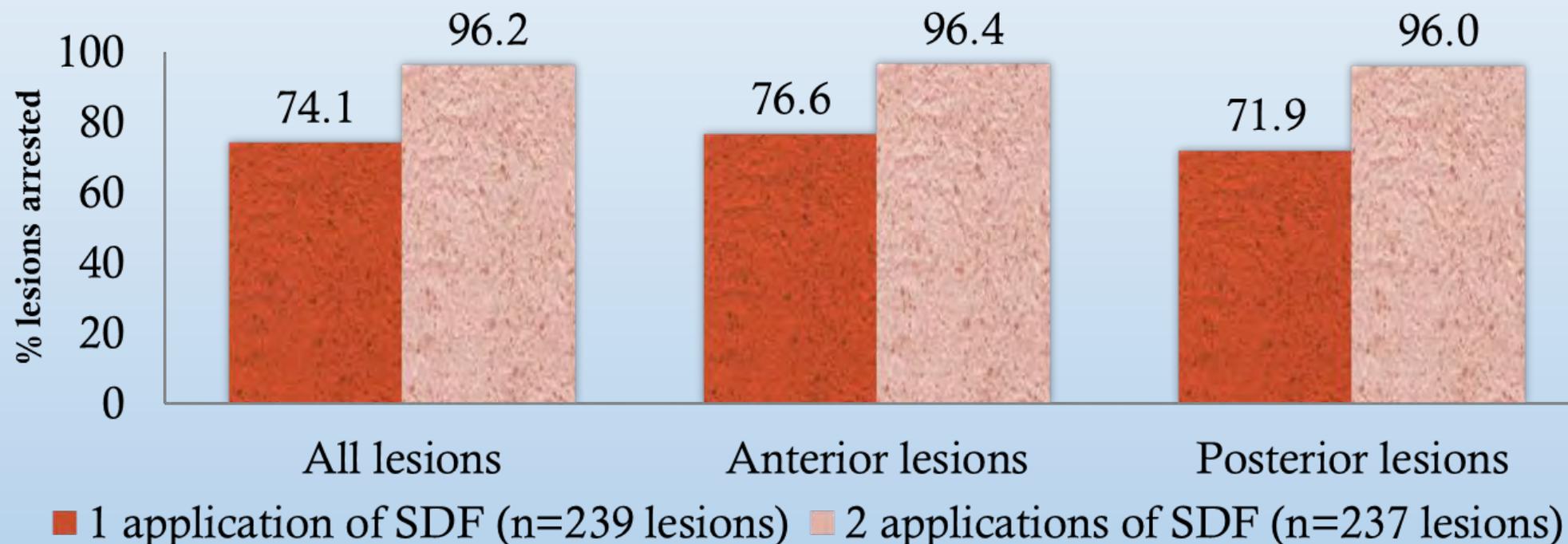
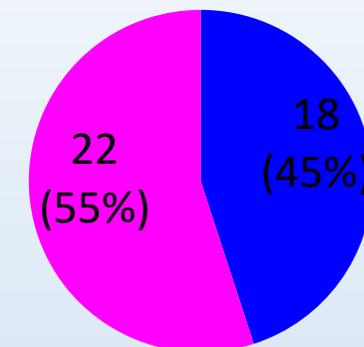
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- Advanced cavitated lesions on any coronal tooth surface:
- Arresting advanced cavitated carious lesions on any coronal surface of **primary teeth** – **RECOMMENDS**: prioritize use of 38% SDF (biannual application) over 5% NaF varnish (1/week for 3 weeks) [Moderate-certainty evidence, **strong recommendation**]

# SDF Results – Caries Arrest Rates

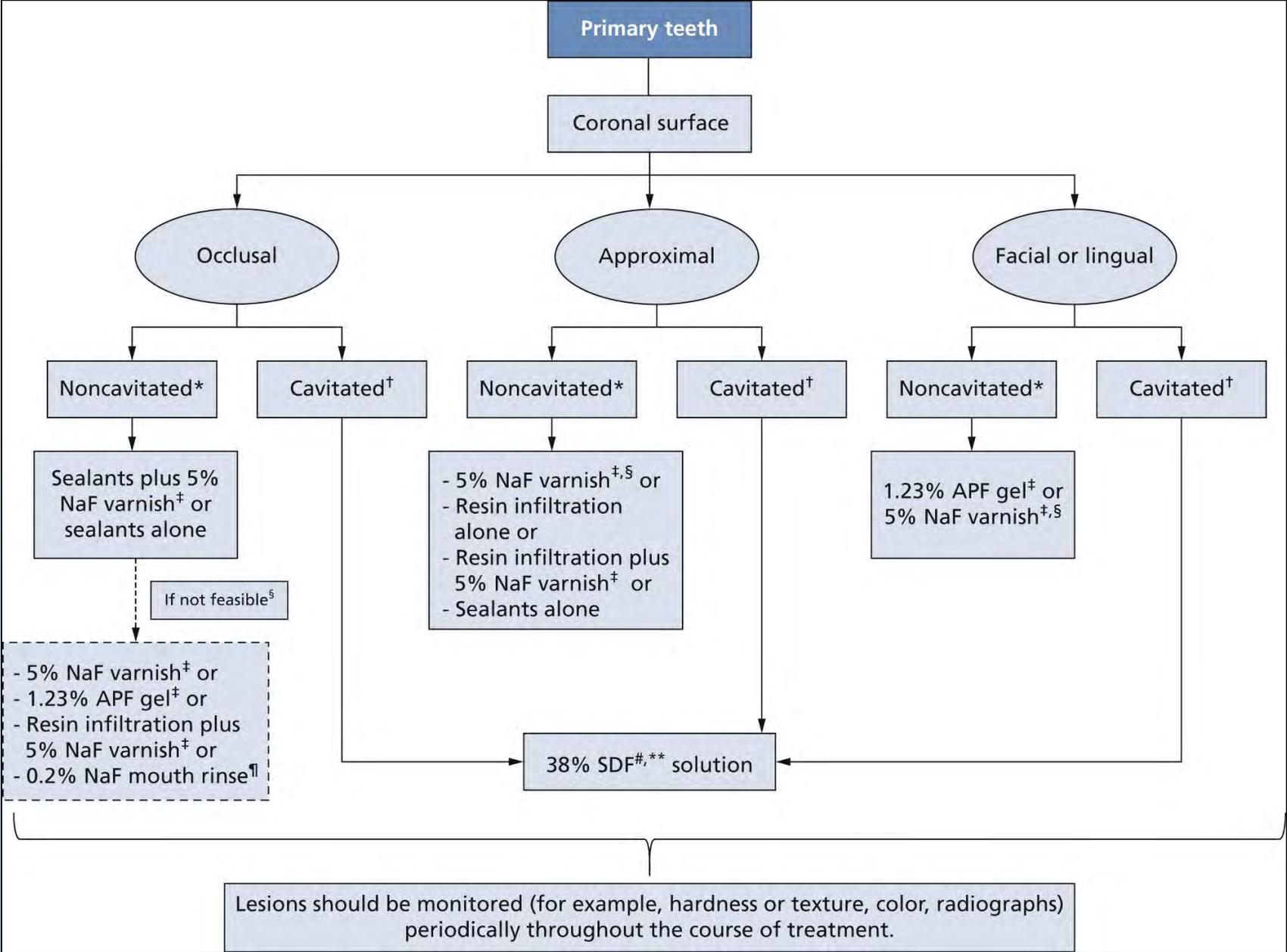
SEX (n=40)

Boys Girls



# Pre-treatment vs. Post-treatment



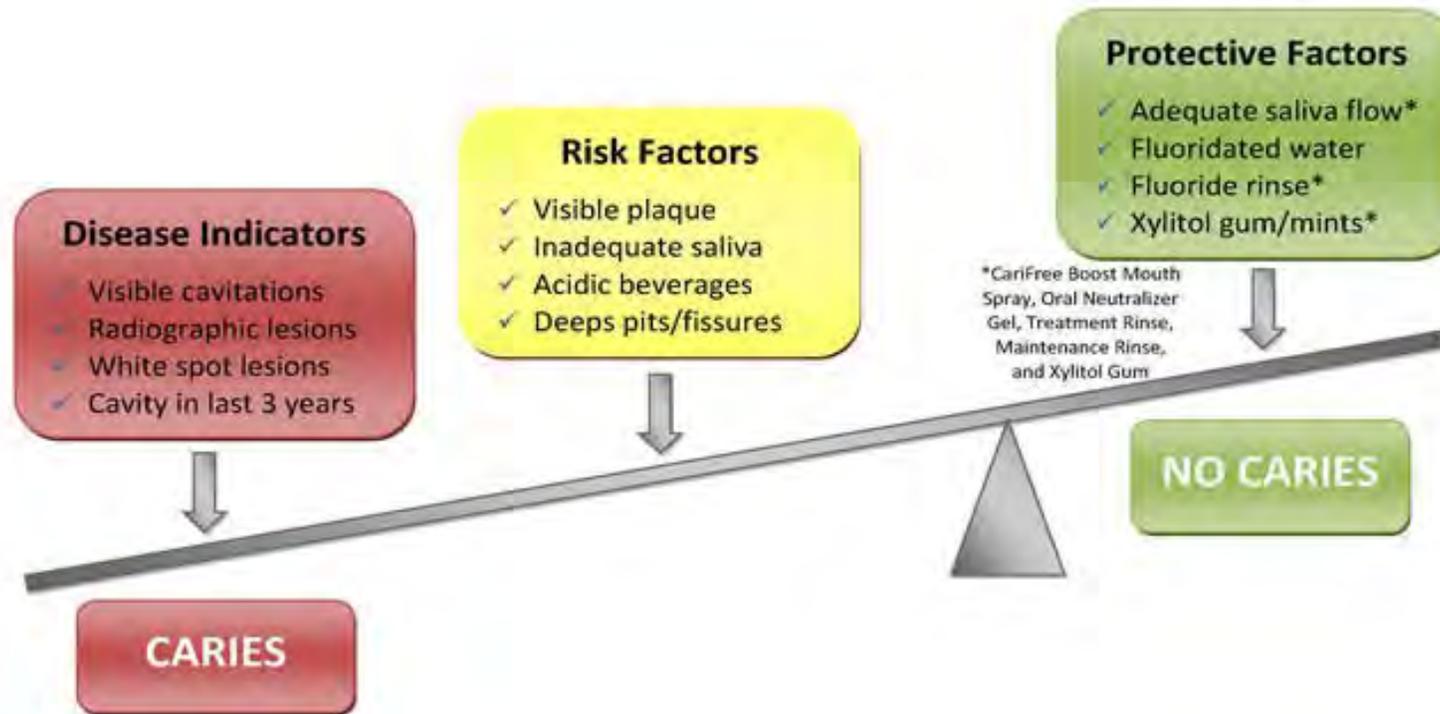


# Question

Which is the strongest predictor of a child's risk for developing caries?

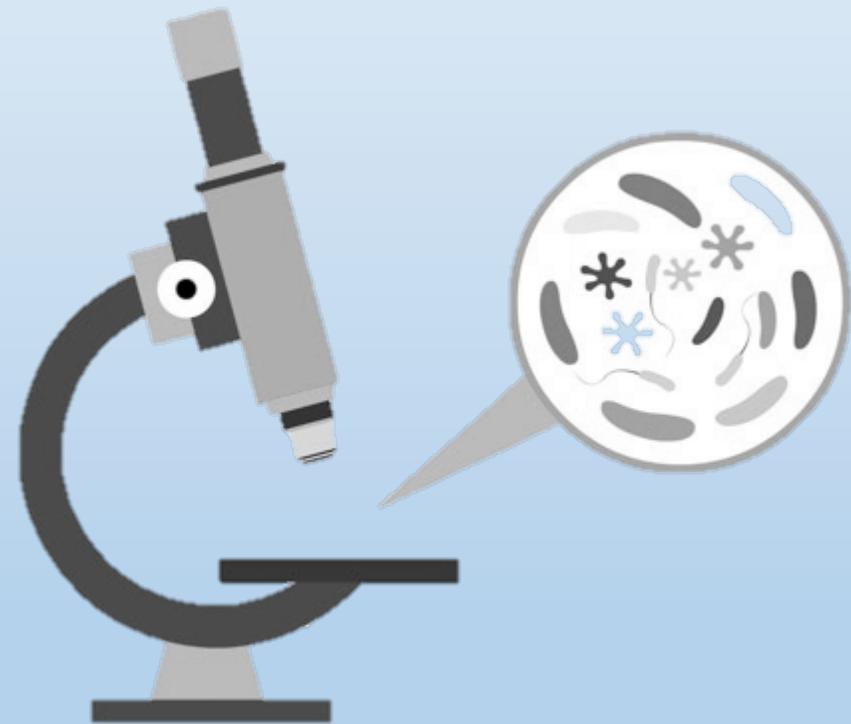
- A) brushing frequency
- B) exposure to fluoride
- C) previous caries experience
- D) deep pits and fissures on primary teeth
- E) Socioeconomics
- F) Feeding practices

# The Caries Imbalance



# Does Restoring Caries Lesions Change Oral Bacterial Loads?

- Placing restorations to fill cavities has no measurable effect on the cariogenic bacterial loading in the remainder of the mouth
- *S. mutans* levels were not significantly different after restorations unless antibacterial therapy was also used

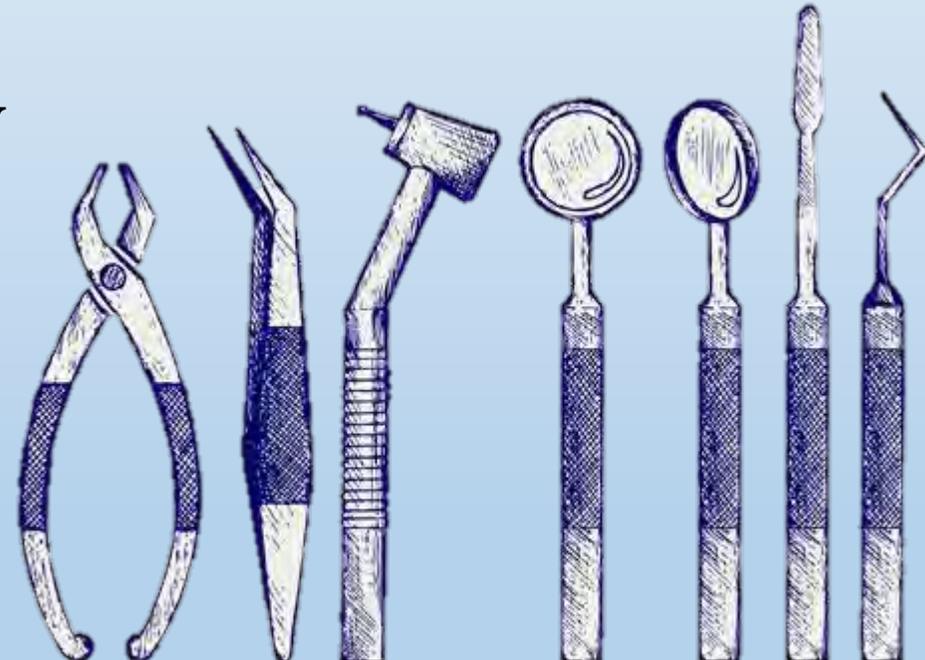


- Traditional surgical/restorative methods for dealing with caries will not eliminate the disease
- In fact, the existence of recent restorations is the greatest indicator of risk of developing new caries lesions

Featherstone, Gansky, Hoover, et al 2005. Caries Res

- This only reinforces the fact that surgically treating caries does little to reduce future caries risk

Fontana, Young & Wolff 2009 Dent Clin N Am



**Only dental professionals can promote  
oral health**

**MYTH**

# Community Impact

PEDIATRIC DENTISTRY V 32 / NO 2 / MAR / APR 10

Scientific Article 

## The Impact of Community Workshops on Improving Early Childhood Oral Health Knowledge

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**Abstract: Purpose:** The purpose of this study was to evaluate the effectiveness of community workshops designed to equip participants with early childhood oral health (ECOH) knowledge and early childhood caries (ECC) prevention. **Methods:** Convenience sample of individuals working with infants and preschool children attending an ECOH training workshop completed a questionnaire before the workshop. One month later, participants completed a follow-up questionnaire. A *P*-value  $\leq .05$  denoted significance. **Results:** One hundred eight participants from southern Manitoba, Canada, completed the initial survey, while 67% completed the postworkshop questionnaire. Initially, many were unfamiliar with the recommended age of a first dental visit, assessing caries-risk, and identifying early stages of decay. Following the workshop, there was a 16% increase in the proportion of correct answers and a significant improvement in the number of correct choices (*P*<.01). Some questions showing considerable improvement included: when children should first visit the dentist (*P*<.001); mother having active decay placing their infant at high risk for caries (*P*<.001); and age until caregivers should supervise tooth-brushing (*P*<.001). Self-reported data suggests participants changed behaviors as a result of what they learned. **Conclusions:** Capacity-building workshops increased oral health knowledge and self-reported behaviors. This provides support that nidental professionals can effectively provide oral health education. (*Pediatr Dent* 2010;32:110-7) Received September 18, 2008. | Last Revision January 14, 2009. | Revision Accepted January 23, 2009

KEYWORDS: HEALTH PROMOTION, HEALTH SERVICES, ACCESS TO CARE, INFANT ORAL HEALTH, EARLY CHILDHOOD CARIES, PUBLIC HEALTH/EPIDEMIOLOGY

Table 2. AVERAGE PROPORTION OF CORRECT AND I DON'T KNOW RESPONSES BY PARTICIPANTS BEFORE AND AFTER ATTENDING A WORKSHOP ON EARLY CHILDHOOD ORAL HEALTH\*

Response	Preworkshop % (range)	Postworkshop % (range)	Improvement (%)
Correct	79 (33-100)	95 (56-100)	16
I don't know	21 (0-39)	5 (0-17)	16

\* *P*<.01

Table 3. SELF-REPORTED KNOWLEDGE AND BEHAVIOR CHANGE OF PARTICIPANTS TAKING PART IN EARLY CHILDHOOD ORAL HEALTH WORKSHOPS

Question	% (N=68)	
	Yes	No
Since completing the session, do you know more about children's oral health?	100	0
Since completing the session, have you made changes to the information you give people about encouraging:		
Tooth-brushing	87	13
Eating less sugar	82	18
Dentist visits	84	16

# Canadian Caries Risk Assessment Tool (< 6 years)

Canadian Caries Risk Assessment Tool (< 6 years)

Child's Name: \_\_\_\_\_  
 Child's Date of Birth: \_\_\_\_\_  
 Date of Assessment: \_\_\_\_\_

Factors	Yes	No
Teeth cleaned with brush (or cloth if infant) at least twice daily by parent or caregiver	<input type="checkbox"/> (0)	<input type="checkbox"/> (1)
Daily exposure to fluoride (e.g. fluoridated toothpaste, fluoridated water)	<input type="checkbox"/> (0)	<input type="checkbox"/> (1)
Feeding practices (one or more): - Bottle-feeding > 12 months of age; - use of bottle or sippy cup between meals with liquid other than water (e.g. pop, fruit juices, milk, chocolate milk) - Bedtime/naptime bottle or sippy cup use - No oral hygiene routine established after solid foods have been introduced while still breastfeeding or bottle-feeding after 12 months - Sugary snacks and drinks between meals (e.g. cookies, candy, sugary cereal, chips, pop, fruit juices, chocolate milk)	<input type="checkbox"/> (1)	<input type="checkbox"/> (0)
Family is low income (e.g. "has difficulty making ends meet at the end of the month")	<input type="checkbox"/> (1)	<input type="checkbox"/> (0)
Visible plaque and/or food debris on teeth	<input type="checkbox"/> (1)	<input type="checkbox"/> (0)
Visible caries (including white spot lesions) and/or past evidence of dental treatment for caries (e.g. fillings, stainless steel crowns, extracted teeth)	<input type="checkbox"/> (3)	<input type="checkbox"/> (0)
Total Score (please add up points from each row)		

Overall caries risk status:  **High Risk** (score ≥ 3)  **Low Risk** (score < 3)

**RECOMMENDATIONS** (Please check all that have been reviewed with parent/caregiver)

**HIGH RISK**  
 If overall caries risk status is high, recommend the following *in addition* to the below:  
 Refer to dental office for treatment if there is caries present.  
 Apply fluoride varnish today.

**FOR ALL CHILDREN**  
 Refer to dental office (if child has not yet been to a dental office in the last year).

Caregiver Information – Recommend:

- That adult brushes child's teeth (< 8 years old) at least twice daily for 2 minutes with:
  - o Water or non-fluoridated toothpaste only for 0-3 years of age if total score = 0
  - o Smear (grain of rice size) of fluoridated toothpaste for 0-3 years of age (if total score > 0)
  - o Green pea size of fluoridated toothpaste for 3-6 years of age
- Lowering sugar consumption or limiting sugary drinks/snacks
- Avoiding overnight bottle and sippy cup use with liquids other than water
- Initiate weaning off bottle by 12 months of age
- Initiate switching to an open cup/lidless sippy cup by 12 months of age
- Other: \_\_\_\_\_



ADDITIONAL COMMENTS:  
 \_\_\_\_\_

Dental referral made to: \_\_\_\_\_  Not required (child has already been to dental office)

January 10, 2019

Canadian Caries Risk Assessment Tool (< 6 years)

Signs of Plaque and Caries Lesions

Visible Plaque and/or Food Debris	
Early Caries (White Spot Lesions)	
Advanced Caries	  

Images courtesy of Dr. Robert Schroth

January 10, 2019

# Pictorial Resource for Newcomers & those with Literacy Challenges

**Caring for Children's Teeth**

Healthy Smile Happy Child

Your Manitoba Dentist  
ManitobaDentists.ca

[http://www.wmha.mb.ca/healthinfo/preventill/oral\\_child.php](http://www.wmha.mb.ca/healthinfo/preventill/oral_child.php) Revised March 2017

- Look in child's mouth**
- Brush child's teeth 2 times every day**
- Eat food good for teeth**
- Go to a Dentist**
- Like your smile**

Healthy Smile Happy Child

Your Manitoba Dentist  
ManitobaDentists.ca

[http://www.wmha.mb.ca/healthinfo/preventill/oral\\_child.php](http://www.wmha.mb.ca/healthinfo/preventill/oral_child.php)

Tooth images courtesy of Alberta Health Services

- Healthy teeth. Go to a dentist.**
- Look for white spots. Cavities starting. Go to a dentist.**
- Look for brown spots. Cavities getting bigger. Go to a dentist.**
- Broken teeth from cavities. Go to a dentist.**

**Look in child's mouth**

# Pictorial Resource for Newcomers & those with Literacy Challenges

[http://www.wrha.mb.ca/healthinfo/preventill/oral\\_child.php](http://www.wrha.mb.ca/healthinfo/preventill/oral_child.php)



Healthy Smile  
Happy Child

Manitoba  
Dentist  
ManitobaDentist.ca

Age 0-3 years      Age 3-6 years

Brush your child's teeth 2 times every day

Morning and bed time  
with toothpaste  
for 2 minutes.



[http://www.wrha.mb.ca/healthinfo/preventill/oral\\_child.php](http://www.wrha.mb.ca/healthinfo/preventill/oral_child.php)



Healthy Smile  
Happy Child

Manitoba  
Dentist  
ManitobaDentist.ca

✓ Good for teeth

✗ Not good for teeth

Eat food that is good for your teeth

# Pictorial Resource for Newcomers & those with Literacy Challenges



Go to a Dentist

Start to take your child before they are 1 year old.



Like your smile



**Thanks for listening!**

Questions?

