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Severe Early Childhood Caries:

a common reason for day surgery under
general anesthesia among Canadian children

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June 3, 2014

Public Health Ontario Grand Rounds
Objectives

• Review the oral health of preschool children in Canada

• Review findings from the CIHI report on pediatric dental surgery in Canada

• Discuss recommendations for promoting early childhood oral health and strategies to reduce the risk for Early Childhood Caries (ECC)
How do we define Early Childhood Caries?

• ECC as ≥ 1 primary tooth affected by decay in children < 72 months (6 years) of age

• **Severe ECC (S-ECC)** is a subtype of ECC

<table>
<thead>
<tr>
<th>Age (months)</th>
<th>SECC</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;12</td>
<td>1 or more smooth dmf surfaces</td>
</tr>
<tr>
<td>12-23</td>
<td>1 or more smooth dmf surfaces</td>
</tr>
<tr>
<td>24-35</td>
<td>1 or more smooth dmf surfaces</td>
</tr>
<tr>
<td>36-47</td>
<td>dmfs score ≥ 4 OR 1 or more smooth dmf surfaces in the primary maxillary anteriors</td>
</tr>
<tr>
<td>48-59</td>
<td>dmfs score ≥ 5 OR 1 or more smooth dmf surfaces in the primary maxillary anteriors</td>
</tr>
<tr>
<td>60-71</td>
<td>dmfs score ≥ 6 OR 1 or more smooth dmf surfaces in the primary maxillary anteriors</td>
</tr>
</tbody>
</table>
Table I. Previous used terms for ECC among infants and preschoolers.

<table>
<thead>
<tr>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baby-bottle tooth decay</td>
</tr>
<tr>
<td>Baby-bottle syndrome</td>
</tr>
<tr>
<td>Labial caries</td>
</tr>
<tr>
<td>Circular caries</td>
</tr>
<tr>
<td>Nursing-bottle mouth</td>
</tr>
<tr>
<td>Milk-bottle caries</td>
</tr>
<tr>
<td>Nursing caries</td>
</tr>
<tr>
<td>Nursing-bottle caries</td>
</tr>
<tr>
<td>Nursing-bottle syndrome</td>
</tr>
<tr>
<td>Bottle-propping caries</td>
</tr>
<tr>
<td>Bottle-baby syndrome and bottle-mouth caries</td>
</tr>
<tr>
<td>Rampant caries</td>
</tr>
<tr>
<td>Melanodontie infantile/“les dents noire de tout-petits”</td>
</tr>
<tr>
<td>Sucking-cup caries</td>
</tr>
<tr>
<td>Sugared-tea caries</td>
</tr>
<tr>
<td>Sweet-tea caries</td>
</tr>
<tr>
<td>Sugar nursing-bottle syndrome</td>
</tr>
</tbody>
</table>

76.5% of previous terms related to feeding practices

Multi-factorial & Multi-level nature of child dental disease & Early Childhood Caries

Fisher-Owens et al: Pediatrics 120. 2007
First Nations Regional Health Survey (RHS) 2008-2010

Figure 34.4. Proportion of First Nations Children Affected By and Treated for BBTD as Reported by Primary Caregivers, by Age (unweighted n = 5,667)

- BBTD
- BBTD Treatment

Denotes children with BBTD who received treatment

# Inuit Oral Health Survey – 2008-2009

Table 1: sample size

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Children 3 to 5 years</th>
<th>Children 6 to 11 years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>wtd n</td>
</tr>
<tr>
<td>All</td>
<td>146</td>
<td>1,066</td>
</tr>
<tr>
<td>Male</td>
<td>72</td>
<td>518</td>
</tr>
<tr>
<td>Female</td>
<td>74</td>
<td>549</td>
</tr>
<tr>
<td>Visited a dental professional in the last year</td>
<td>67</td>
<td>503</td>
</tr>
<tr>
<td>Visited a dental professional more than a year ago</td>
<td>78</td>
<td>552</td>
</tr>
<tr>
<td>Dentate</td>
<td>146</td>
<td>1,066</td>
</tr>
<tr>
<td>Edentulous</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

- ECC prevalence = 85.3%
- Mean dt = 4.06
- Mean mt = 1.83
- Mean ft = 2.33
- Mean dmft = 8.22
First Nations Oral Health Survey (FNOHS)

- 5 Canadian Provinces & 1 Territory
- Face-to-face interviews & clinical oral exams
- Included preschool children 3-5 years of age

- ECC prevalence = 85.9%
- Mean dt = 2.68
- Mean mt = 1.46
- Mean ft = 3.47
- Mean dmft = 7.62

# TABLE 4.2  Prevalence and severity of dental caries among First Nations and Inuit children aged 3–5 years, by national survey

<table>
<thead>
<tr>
<th>Caries index</th>
<th>IOHS 2008–09</th>
<th>FNOHS 2009–10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caries prevalence: % with dmft &gt; 0</td>
<td>85.3</td>
<td>85.9</td>
</tr>
<tr>
<td>Caries severity: mean dmft</td>
<td>8.22</td>
<td>7.62</td>
</tr>
<tr>
<td>Untreated caries:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% dt/dmft and (mean dt)</td>
<td>49.4</td>
<td>35.2</td>
</tr>
<tr>
<td>(4.06 teeth E)</td>
<td>(2.68 teeth)</td>
<td></td>
</tr>
</tbody>
</table>

Sources: IOHS = Inuit Oral Health Survey 2008–09 (Health Canada *et al.*, 2011)  
FNOHS = First Nations Oral Health Survey 2009–10  
E = Interpret with caution (high sampling variability; coefficient of variation 16.6% to 33.3%)
Prevalence of ECC by Manitoba Community

<table>
<thead>
<tr>
<th>Community</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garden Hill FN</td>
<td>98.9</td>
</tr>
<tr>
<td>Carman</td>
<td>44.3</td>
</tr>
<tr>
<td>Northern FN</td>
<td>58.6</td>
</tr>
<tr>
<td>Roseau River FN</td>
<td>65.5</td>
</tr>
<tr>
<td>Thompson</td>
<td>64.6</td>
</tr>
<tr>
<td>Winnipeg</td>
<td>51.4</td>
</tr>
<tr>
<td>Wpg-Mount Carmel</td>
<td>46.6</td>
</tr>
<tr>
<td>Hutterite</td>
<td>43.3</td>
</tr>
<tr>
<td></td>
<td>52.3</td>
</tr>
<tr>
<td></td>
<td>71</td>
</tr>
<tr>
<td></td>
<td>53</td>
</tr>
</tbody>
</table>

Provincial Volume and Rates of Dental Surgery for the Province of Manitoba, Canada (1997 – 2007)

Schroth et al. J Can Dent Assoc 2014 (Accepted for Publication)
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, MS, a,b, *, Rosamund L. Harrison, DMD, MSC, MRCDIC, c,d, Michael E.K. Moffatt, MD, MSC, FRCPC a,b,e

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

• Growth & Development
  • Speech development
  • Height
  • Weight and Body Mass Index (BMI)

• Common Pediatric Illnesses & Conditions
  • Otitis media
  • Respiratory tract infections
  • Iron deficiency & nutritional deficiencies

• Quality of Life
  • Eating patterns
  • Pain
  • Sleep
  • Behaviour
Association between iron status, iron deficiency anaemia, and severe early childhood caries: a case–control study

Robert J Schroth¹,²,³*, Jeremy Levi¹,³, Eleonore Kliwer¹,³, James Friel¹,³ and Michael EK Moffatt²,³,⁴

Abstract

Background: Severe tooth decay is known to affect the health and well-being of young children. However, little is known about the influence of Severe Early Childhood Caries (S-ECC) on childhood nutritional status. The purpose of this study was to contrast ferritin and haemoglobin levels between preschoolers with S-ECC and caries-free controls.

Methods: Children were recruited as part of a larger case–control study examining differences in nutritional status between those with and without S-ECC. Preschoolers with S-ECC were recruited on the day of their dental surgery, while caries-free controls were recruited from the community. Parents completed a questionnaire and the child underwent venipuncture. The study was approved by the University’s Health Research Ethics Board. Statistics included descriptive, bivariate and logistic regression analyses. A p value ≤ .05 was significant. A total of 266 children were recruited; 144 with S-ECC and 122 caries-free.

Results: The mean age was 40.8 ± 14.1 months. The mean ferritin concentration for all children was 29.6 ± 17.9 µg/L while the mean haemoglobin level was 115.1 ± 10.1 g/L. Children with S-ECC were significantly more likely to have low ferritin (p=.033) and low haemoglobin levels (p<.001). Logistic regression analyses revealed that children with S-ECC were nearly twice as likely to have low ferritin levels and were over six times more likely to have iron deficiency anaemia than caries-free controls.

Conclusions: Children with S-ECC appear to be at significantly greater odds of having low ferritin status compared with caries-free children and also appear to have significantly lower haemoglobin levels than the caries-free control group. Children with S-ECC also appear to be at significantly greater odds for iron deficiency anaemia than cavity-free children.

Keywords: Early childhood caries, Iron, Iron deficiency, Anaemia, Preschool child
Vitamin D status of children with severe early childhood caries: a case–control study

Robert J Schroth1,2,4*, Jeremy A Levi1,2, Elizabeth A Sellers1,2, James Friel1,2, Eleonore Kliewer1,2 and Michael EK Moffatt1,2,3

Abstract

Background: Severe Early Childhood Caries (S-ECC) affects the health and well-being of young children. There is limited research in this area, though evidence suggests that children with S-ECC are at an increased risk of malnutrition. The purpose of this study was to determine the association between vitamin D (25(OH)D) levels and S-ECC.

Methods: This case–control study was conducted from 2009 to 2011 in the city of Winnipeg, Manitoba, Canada. 144 preschool children with S-ECC were recruited from a local health centre on the day of their slated dental surgery under general anesthetic. 122 caries-free controls were recruited from the community. Children underwent a blood draw for vitamin D (25(OH)D), calcium, parathyroid hormone, and albumin levels. Parents completed an interviewed questionnaire assessing the child’s nutritional habits, oral health, and family demographics. Analyses included descriptive and bivariate statistics as well as multiple and logistic regression. A p value ≤ 0.05 was significant.

Results: The mean age of participants was 40.8 ± 14.1 months. Children with S-ECC had significantly lower mean 25 (OH)D (68.9 ± 28.0 nmol/L vs. 82.9 ± 31.1, p < 0.001), calcium (p < 0.001), and albumin (p < 0.001) levels, and significantly higher parathyroid hormone (p < 0.001) levels than those caries-free. Children with S-ECC were significantly more likely to have vitamin D levels below recognized thresholds for optimal and adequate status (i.e. <75 and <50 nmol/L, respectively). Multiple regression analysis revealed that S-ECC, infrequent milk consumption, and winter season were significantly associated with lower 25(OH)D concentrations. Low 25(OH)D levels, low household income, and poorer ratings of the child’s general health were significantly associated with S-ECC on logistic regression.

Conclusion: Children with S-ECC appear to have relatively poor nutritional health compared to caries-free controls, and were significantly more likely to have low vitamin D, calcium, and albumin concentrations and elevated PTH levels.

Keywords: Early childhood caries, Vitamin D, Nutritional status, Calcium, Parathyroid hormone, Preschool children
Treatment of Preventable Dental Cavities in Preschoolers:
A Focus on Day Surgery Under General Anesthesia

Highlights
Released October 17, 2013
Highlights of the Report

• Magnitude of the problem
• Time in the operating room (OR)
• Population-based rates for day surgery for early childhood caries (ECC)
  – Rates by province/territory and health region
• Populations at higher risk
• Costs associated with
  – Hospital care
  – Anesthesia
Background

• The development of cavities in children’s primary teeth due to ECC represents a significant burden in both human and financial terms.

• This is despite the fact that ECC is generally preventable and, when caught early, is treatable in community-based settings.

• The consequences of ECC can be dire:
  – Pain, difficulty eating and sleeping, speech difficulties and poor self-esteem may occur, affecting growth and the ability to concentrate and function.
  – Quality of life can be seriously impaired.
Methods

• Day surgery abstracts for ECC were extracted from CIHI’s Discharge Abstract Database (DAD) and National Ambulatory Care Reporting System (NACRS)

• Data was pooled for fiscal years 2010–2011 and 2011–2012

• Records for children younger than age 6 containing both a diagnosis of dental caries and an identified surgical dental procedure (filling, extraction and/or other) were included in the analysis

• Records with a diagnosis of dental trauma and/or developmental handicap were excluded

• Results include residents of all provinces and territories except Quebec (Quebec elected to not participate in this study)
Methods

• Rates were calculated by dividing the number of procedures found in the pooled two-year cohort by the sum of the two-year estimated subpopulation
  – The numerator for rates is ECC-related day surgery operations
  – There may be cases of children undergoing repeated dental operations over the two-year study period
  – The rates presented are therefore day surgery operations per 1,000 population
Study Limitations

• This report is limited to day surgery treatment for ECC

• In some jurisdictions, ECC is treated in the community

• Children on waiting lists for ECC-related day surgery were not captured in these analyses

• Therefore, in terms of estimating the prevalence of interventions for ECC, the report, in effect, identifies the tip of the iceberg
How Often Does Day Surgery for ECC Occur?

31% of day surgery for preschoolers

Leading cause of day surgery for children this age

19,000 day surgery operations per year

12.5 day surgery operations per 1000 children age 1-5 years during 2010/11 – 2011/12

Notes
Quebec elected to not participate in this study.
Based on 2013 CACS grouper.

Sources
How Long Do Preschoolers Spend in the OR?

**Figure 2: Day Surgery Duration by Location of Residence, Selected Provinces/ Territories, Children Age 1 to Younger Than 5, Two-Year Pooled (2010–2011 to 2011–2012)**

- **82 minutes** (average)
- **Range**
  - 57 minutes for children living in Newfoundland and Labrador
  - 99 minutes for children living in Yukon

**Notes**

* Interpret with caution: Coding of duration of day surgery is optional in Alberta and Nova Scotia and may not be uniformly defined across jurisdictions (NACRS). Coding of intervention episode start/end time, used to calculate duration of day surgery, is mandatory in B.C. and Newfoundland and Labrador, but there was significant reporting of unknown time in these two jurisdictions for the cohort of interest (DAD).

Quebec elected to not participate in this study.

**Sources**

How Severe Are These Cases?

• Extent of the disease could not be measured
  – Duration of surgery (82 minutes under general anesthetic) indicates that these children were receiving intensive treatment

• 53.8% of day surgery operations involved more than one type of procedure (most commonly fillings and extractions)
  – Average duration was 83 minutes

• 46.2% of day surgery operations involved a single type of procedure (90.4% were fillings only)
  – Average time in OR when only fillings were performed (85 minutes) was nearly double that for when only extractions were performed (46 minutes)
• Magnitude of the problem varies by jurisdiction
• Range **8.4 per 1,000** in Ontario **97.2 per 1,000** in Nunavut
Rates by Health Region

Regions with rates higher than 1 day surgery for every 10 preschoolers
- **132.9 per 1,000** in Mamawetan Churchill River, Sask.
- **227.4 per 1,000** in Athabasca, Sask.
- **115.8 per 1,000** in Northern, Man.

Refer to report for regional volumes and rates

Notes
Quebec elected to not participate in this study.
Ranges are approximate quartiles for regional rates.
Rates were calculated by dividing the number of procedures found in the pooled two-year cohort by the sum of the combined two-year subpopulation estimate.

Sources
### Rates by Ontario Health Integration Networks

<table>
<thead>
<tr>
<th>Local Health Integration Network</th>
<th>Rate</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erie St. Clair Local Health Integration Network</td>
<td>1,165</td>
<td>21.2</td>
</tr>
<tr>
<td>South West Local Health Integration Network</td>
<td>558</td>
<td>6.9</td>
</tr>
<tr>
<td>Waterloo Wellington Local Health Integration Network</td>
<td>387</td>
<td>5.5</td>
</tr>
<tr>
<td>Hamilton Niagara Haldimand Brant Local Health Integration Network</td>
<td>488</td>
<td>4.2</td>
</tr>
<tr>
<td>Central West Local Health Integration Network</td>
<td>472</td>
<td>5.7</td>
</tr>
<tr>
<td>Mississauga Halton Local Health Integration Network</td>
<td>390</td>
<td>3.4</td>
</tr>
<tr>
<td>Toronto Central Local Health Integration Network</td>
<td>379</td>
<td>3.8</td>
</tr>
<tr>
<td>Central Local Health Integration Network</td>
<td>886</td>
<td>5.7</td>
</tr>
<tr>
<td>Central East Local Health Integration Network</td>
<td>664</td>
<td>5.1</td>
</tr>
<tr>
<td>South East Local Health Integration Network</td>
<td>344</td>
<td>9.4</td>
</tr>
<tr>
<td>Champlain Local Health Integration Network</td>
<td>974</td>
<td>9.3</td>
</tr>
<tr>
<td>North Simcoe Muskoka Local Health Integration Network</td>
<td>590</td>
<td>16.0</td>
</tr>
<tr>
<td>North East Local Health Integration Network</td>
<td>1,055</td>
<td>25.0</td>
</tr>
<tr>
<td>North West Local Health Integration Network</td>
<td>1,258</td>
<td>60.9</td>
</tr>
</tbody>
</table>
Are Some Populations at Higher Risk?

- 3.1 x as high for children from rural (versus urban) neighbourhoods
- 3.9 x as high for children from the least (versus the most) affluent neighbourhoods
- 8.6 x as high for children from neighbourhoods with high (versus low) Aboriginal populations
How Much Does It Cost?

• In the report, estimates of health system financial costs are limited to
  – Hospital care
  – Anesthesia providers (for a few jurisdictions)

• This is a fraction of the total cost of care for ECC because it excludes costs associated with
  – Care providers, such as dentists/dental surgeons
  – Travel to care
### Cost: Hospital Care

#### Table 1: Hospital Cost of Day Surgery for ECC by Location of Residence, Selected Provinces/Territories, Children Age 1 to Younger Than 5, Two-Year Pooled (2010–2011 to 2011–2012)

<table>
<thead>
<tr>
<th>Province</th>
<th>Average Annual</th>
<th>Average per Day Surgery</th>
<th>Total (Two-Year Pooled)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.C.</td>
<td>3,516,560</td>
<td>1,515</td>
<td>7,033,121</td>
</tr>
<tr>
<td>Alta.</td>
<td>2,281,077</td>
<td>1,963</td>
<td>4,562,155</td>
</tr>
<tr>
<td>Sask.</td>
<td>3,292,791</td>
<td>1,699</td>
<td>6,585,582</td>
</tr>
<tr>
<td>Man.</td>
<td>2,767,564</td>
<td>1,643</td>
<td>5,535,127</td>
</tr>
<tr>
<td>Ont.</td>
<td>6,506,893</td>
<td>1,408</td>
<td>13,013,786</td>
</tr>
<tr>
<td>N.B.</td>
<td>448,047</td>
<td>1,271</td>
<td>896,094</td>
</tr>
<tr>
<td>N.S.</td>
<td>730,607</td>
<td>1,657</td>
<td>1,461,214</td>
</tr>
<tr>
<td>P.E.I.</td>
<td>136,151</td>
<td>1,441</td>
<td>272,302</td>
</tr>
<tr>
<td>N.L.</td>
<td>971,998</td>
<td>1,734</td>
<td>1,943,996</td>
</tr>
<tr>
<td>Y.T.</td>
<td>61,193</td>
<td>1,912</td>
<td>122,386</td>
</tr>
<tr>
<td>N.W.T.</td>
<td>188,881</td>
<td>1,379</td>
<td>377,761</td>
</tr>
<tr>
<td>Nun.</td>
<td>282,784</td>
<td>1,454</td>
<td>565,567</td>
</tr>
<tr>
<td>Total</td>
<td>21,184,545</td>
<td>1,564</td>
<td>42,369,090</td>
</tr>
</tbody>
</table>

- **$21.2 million per year**
- **Range of average cost per surgery**
  - **$1,271** in New Brunswick
  - **$1,963** in Alberta

**Sources**
Cost: Anesthesia Providers

Table 2: Average Anesthesia Cost of Day Surgery for ECC by Location of Residence, Selected Provinces/Territories, Children Age 1 to Younger Than 5, Two-Year Pooled (2010–2011 to 2011–2012)

<table>
<thead>
<tr>
<th>Location</th>
<th>Average Cost per Day Surgery ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.C.</td>
<td>267</td>
</tr>
<tr>
<td>Alta.</td>
<td>329</td>
</tr>
<tr>
<td>Sask.</td>
<td>361</td>
</tr>
<tr>
<td>Man.</td>
<td>240</td>
</tr>
</tbody>
</table>

Notes
Available for the four Western provinces.
Fee-for-service providers only.

Source
Travel Time

- **22.3%** of families spent two or more hours travelling to care

- Provincial/territorial/federal travel policies can help defray these costs

**Notes**
Quebec elected to not participate in this study.
Excludes records for which travel time could not be calculated. Day surgery operations for children receiving care out of province are counted within the jurisdiction of the child’s residence.

**Sources**
Key Findings

• Cavities in baby teeth can be prevented, yet 19,000 day surgery operations treat this problem each year
  – Under general anesthesia
  – Average 82 minutes of surgery

• Leading cause of day surgery: 31% of all day surgery for preschoolers

• Day surgery rates
  – Were 8.6 times as high for children from neighbourhoods with high (versus low) Aboriginal populations
  – Were 3.9 times as high for children from the least (versus the most) affluent neighbourhoods
  – Were 3.1 times as high for children from rural (versus urban) neighbourhoods

• Annual cost of hospital care: $21.2 million

• These operations represent the tip of the iceberg in treating this disease
Conclusions

• The estimates of ECC’s impact on children’s well-being and demands on the health care system provided in this report represent the tip of the iceberg because only procedures performed as day surgery were included.

• The magnitude of the problem of ECC requiring day surgery in Canada as described in this report provides further impetus to act and prevent pain and suffering among young children.

• Such efforts will also realize opportunities for cost savings and improved health system efficiency.
Available at www.cihi.ca

> Report
> Excel tables for all results, including
  – Province/territory/health region volumes and rates
> Summary PowerPoint
> Infosheet

CIHI Expert Panel: Drs. R Barsky, C Quinonez, R Schroth, L Shwart
Recommendations for Promoting Early Childhood Oral Health

Here are some tips to keep your child’s oral health on track:

- Caring for baby teeth begins before baby arrives. A good prenatal diet and good dental care for mom and parents is important. Vitamin D and calcium are essential building blocks for strong teeth. Regular dental care for parents may reduce the transmission of cavity-causing bacteria to your child.
- Breast-feed. Not only is it natural, but it is also lowers the risk for decay. For those choosing to bottle-feed, limit bottles to feeding times only and wean your child from the bottle by 14 to 18 months.
- Avoid bottles at bedtime. While milk and juice appear healthy they contain sugars, which can lead to cavities. Only plain water is safe in the bedtime bottle.
- Begin cleaning your child’s mouth with a soft cloth before teeth arrive. Once teeth erupt begin with a smear of toothpaste the size of a grain of rice. Once your child turns three years of age, use a green pea size of toothpaste. Most children need assistance with brushing until age eight.
- Celebrate your child’s first birthday with a trip to the dentist. That first visit should occur by 12 months of age.
- Give your child dental friendly snacks like fruit, vegetables, and cheese. Vitamin D rich foods and supplements may also help prevent cavities.
- Limit the number of between meal snacks and drinks containing sugar.
1. Early Visits to the Dentist

- 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

• < 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)
Manitoba Dental Association’s Free First Visit Program

![Bar Chart](chart.png)

![Map](map.png)

![Free First Visit Banner](banner.png)
2. Diet & Nutrition

- 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.
3. Weaning & Good Infant Feeding Choices

- Breast-feed. Not only is it natural, but it is also lowers the risk for decay.

- For those choosing to bottle-feed, limit bottles to feeding times only and wean your child from the bottle by 14-18 months.

- Avoid bottles at bedtime. While milk and juice appear healthy they contain sugars, which can lead to cavities. Only plain water is safe in the bedtime bottle.
4. Limit Sugar

- Limit the number of between meal snacks and drinks containing sugar.
5. Oral Hygiene with the First Tooth

- Begin cleaning your child's mouth with a soft cloth before teeth arrive.

- Once teeth erupt begin with a smear of toothpaste the size of a grain of rice.

- Once your child turns 3 years old use a green pea size of toothpaste.

- Most children need assistance with brushing until age 8.
Thank you!

Questions?

For more resources visit Healthy Smile Happy Child at:

http://www.wrha.mb.ca/healthinfo/preventill/oral_child.php

Visit us on Facebook at:
https://www.facebook.com/HealthySmileHappyChild?ref=profile#!/HealthySmileHappyChild