



Baby Tooth

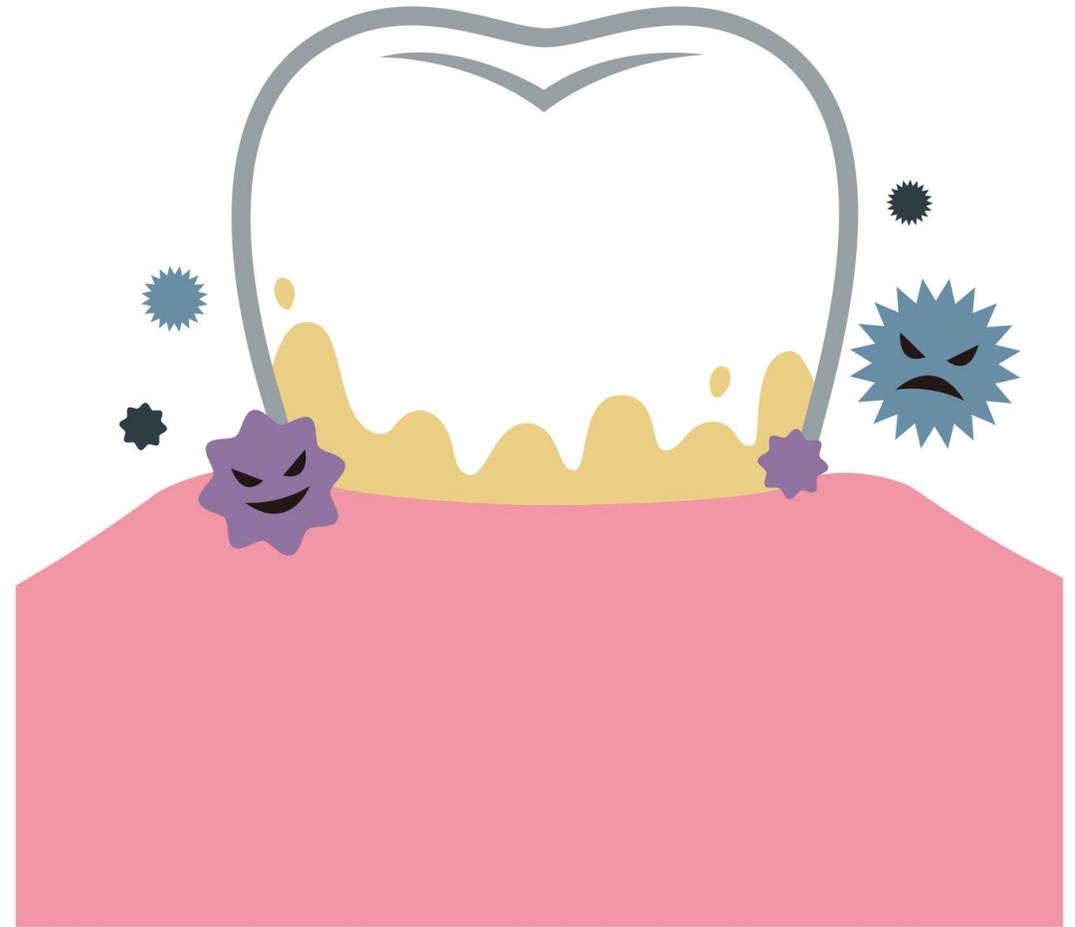
SUGAR BUG BUSTERS

Dr. Kari's Oral Hygiene Program

WHAT IS PLAQUE?

- 🦷 A sticky colourless layer of bacteria, saliva and food particles
- 🦷 Forms on the teeth and along the gum line
- 🦷 Forms continuously

It only takes 24-36 hours for plaque to harden into calculus (AKA tartar) if it is not removed by brushing and flossing!



Plaque that remains on the teeth causes tooth decay and gum disease (gingivitis/periodontal disease)!

DID YOU KNOW?

Although dental caries (cavities) are largely preventable, they remain the **most common chronic disease of children** aged 6 to 11 years, and adolescents aged 12 to 19 years.

Tooth decay is **four times more common than asthma** among adolescents aged 14 to 17 years.

- Adapted from the Centre for Disease Control and Prevention, cdc.gov

Our mission is to reduce that number!



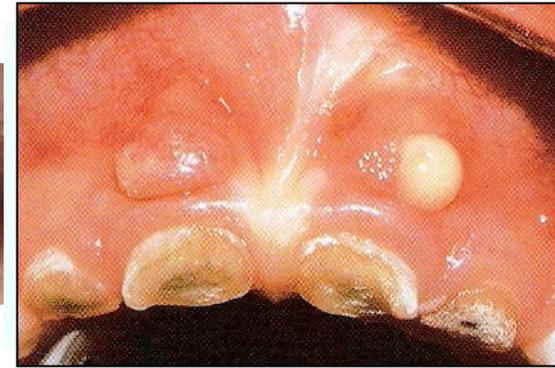
CHECKING FOR TOOTH DECAY (CAVITIES)



White spots:
Early decay



Decay



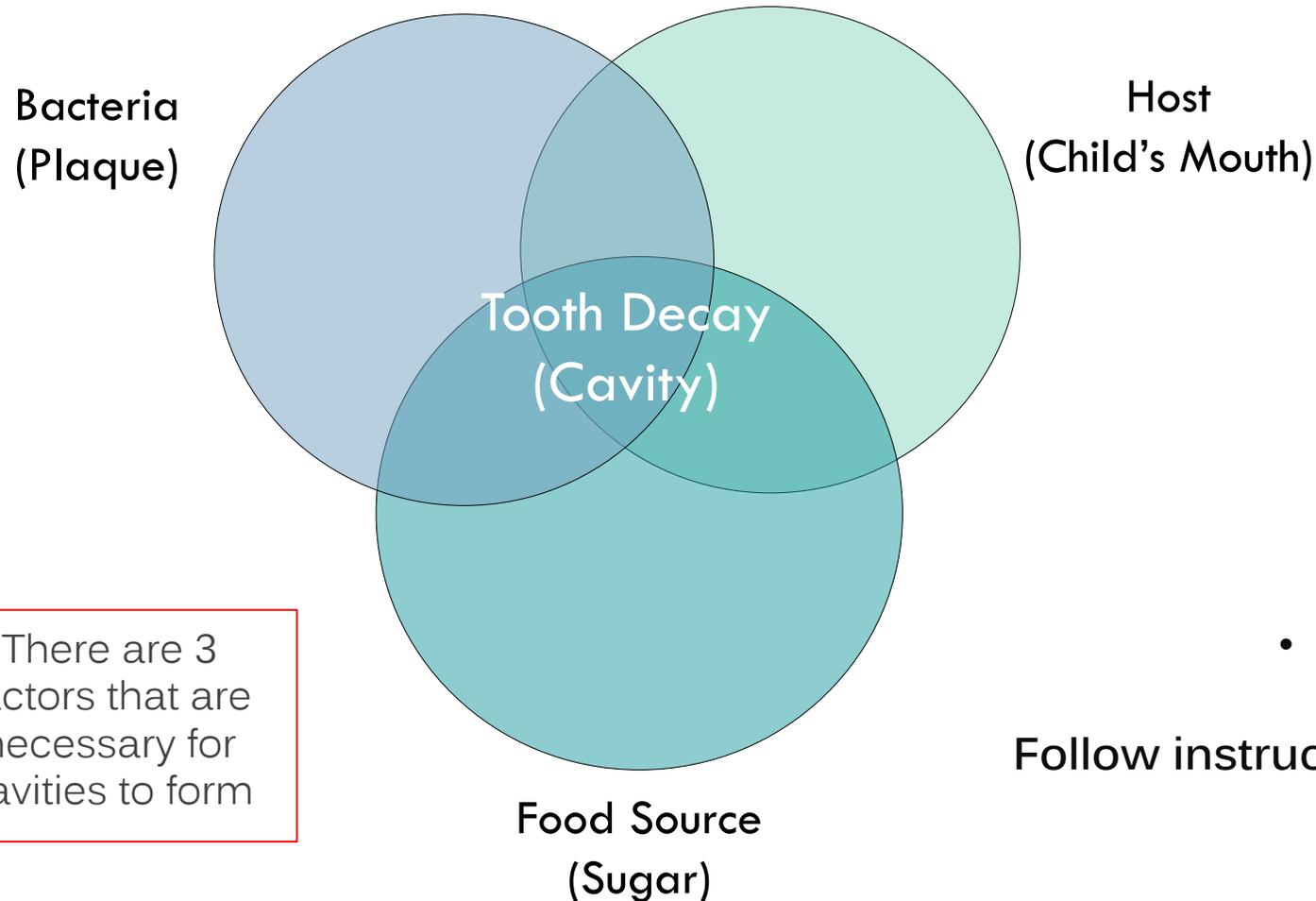
Severe Decay

- Tooth decay can form as soon as the teeth appear
- Lift the Lip and check for early signs of tooth decay



HOW DOES A CAVITY FORM?

A cavity is damage of the structure of the tooth caused by acids that are created when plaque bacteria break down sugar in your mouth.



There are 3 factors that are necessary for cavities to form

How to prevent cavities:

- Brushing 2x day
- Flossing daily
- Fluoride toothpaste
- Limit intake of sugary foods and drinks

Follow instructions from your dentist and hygienist!

QUICK TIPS FOR HOME CARE TO PREVENT TOOTH DECAY

- Brush TWICE per day – in the morning, and before bedtime
 - Brush for two minutes, with a timer
- Floss ONCE per day – at any time of day, but before bedtime is best
 - Use a fluoridated toothpaste
- Eat a healthy diet, and limit sugar and carbohydrate intake
 - Spread out meals and snack times
 - Drink lots of water!

The last thing to touch the teeth before bed
is fluoride toothpaste or water!



BRUSH AND FLOSS AS A TEAM!



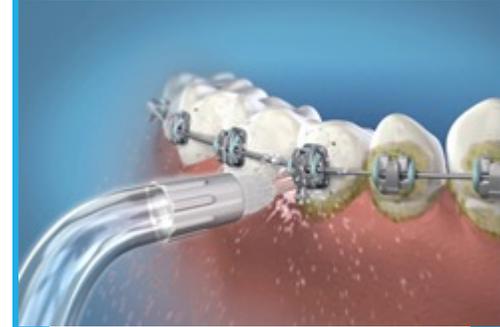
- Most children under **eight years old** lack the dexterity to brush their teeth properly
- Studies have shown that children favor brushing one side of the mouth over the other (corresponds with their dominant hand)
- Children often forget to brush the inside surfaces of their teeth
- Bottom teeth are brushed more often than the top teeth
- It may be difficult, but it's something that must be done

FLOSSING

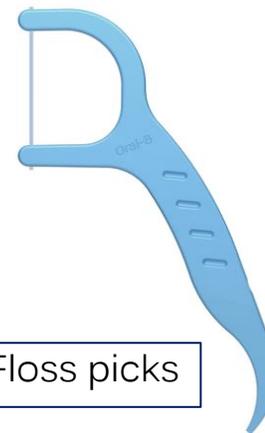
- Regular flossing helps to remove plaque and bacteria in between the teeth that the toothbrush cannot reach – this **improves gum health** and **prevents cavities that form in between the teeth**
- There are many aids available to floss your child's teeth, and all of them are just as effective in removing plaque and bacteria in between the teeth
- Flossing should start once the baby teeth are touching



Waterflosser



Water flossers are great for keeping braces clean!



Floss picks



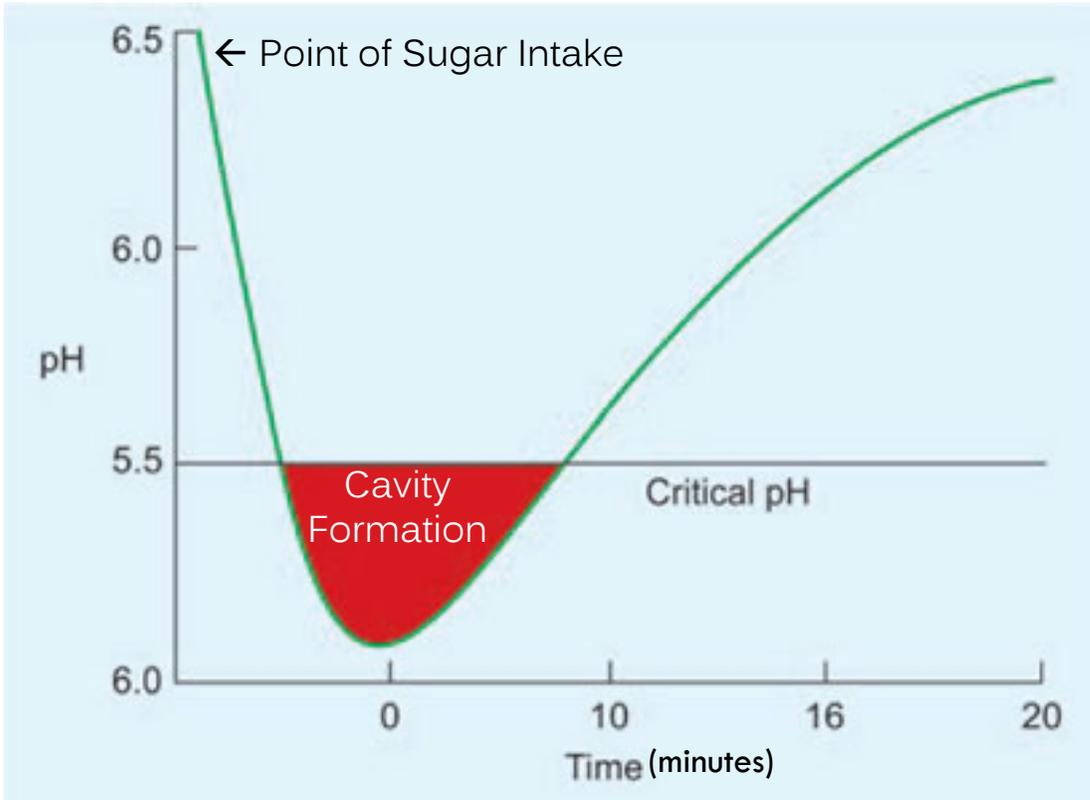
Floss handle



DIET

- Children need a balanced nutritious diet so that their teeth develop properly and are strong and **decay-resistant**. Eating patterns and food choices are important factors that affect how quickly tooth decay develops
- A well-balanced, nutritious diet is important for good oral and general health
- A poor diet can contribute to tooth decay and gum disease
- Eat a diet of mostly whole foods, with lots of lean protein and fresh vegetables
- Try to avoid processed foods, especially ones that are high in simple sugars

ACID EXPOSURE TO TEETH



Foods high in sugar and starches increase the production of **acids** that can erode and weaken the tooth's enamel (the outer layer of the tooth)

Eventually, these acids cause **tooth decay (caries)**

Follow **set snacking and meal times**, with at least **2-3 hours in between** to allow the mouth time to **neutralize** (to a pH of 7.0)

Healthy Mouth = pH 7.0

Battery Acid	1	Acid
Gastric Acid	2	
Hydrochloric Acid	3	
Soda	4	Neutral
Acid Rain	5	
Black Coffee	6	
Urine/Saliva	7	Alkali
*Pure Water	8	
Sea Water	9	
Baking Soda	10	
Milk of Magnesium	11	
Ammonia	12	
Soapy Water	13	
Bleach	14	
Drain Cleaner	14	

TIPS FOR SNACKING:

- Set meal-times can be very useful in helping limit snacking between meals. Allow for 2-3 hours in between meals and snack times so the mouth can neutralize
- Consider snacks that are not chewy or sticky. Foods like this can stick to the teeth for long periods of time and promote decay!
- Have your child **sit down to eat** – this will be more safe when chewing food, and can promote a snacking schedule!
- Sitting down to eat can also slow down the eating process and promote chewing:
 1. Chewing signals the beginning of the digestive process
 2. Prolonged and thorough chewing processes more saliva, helping re-mineralize teeth and restore the pH of your mouth after eating sugar/acids
 3. It is a great time to serve more water
 4. Hectic lifestyles can sometimes correlate with fast food, fad diets and high sugar intake
 5. Parents can use a family dinner to have 'the last say' in their children's food consumption before bed

According to the American Academy of Pediatric Dentistry, it's actually the **frequency of consumption**, not the quantity of sugar consumption that matters when forming tooth decay



Those with food allergies or on restrictive diets may experience vitamin and protein deficiencies, possibly putting them at greater risk for tooth decay and gum disease

HOW TO EAT RIGHT

Because the body cannot manufacture all the necessary nutrients for good health, individuals rely on food sources and supplements. Getting the proper amount of vitamins, minerals, fats and protein is essential for the growth and regeneration of normal tissues, and for building the body's immune system.

For instance, carbohydrates, fat and protein supply the energy the body needs for tissue maintenance and repair, along with vitamins such as A, B, C, E, K and D, which are also essential for healing and quicker recovery time. Vitamin A, for example, significantly reduces the healing time for repairing inflamed tissue.

Important minerals and nutrients the body needs to stay healthy include:

Vitamin/Mineral	Impact on Oral Health	Sources
Calcium	Essential for bone health; teeth and jaws are made mostly of calcium	Milk and dairy products, beans, broccoli, nuts and oyster
Iron	A deficiency can cause tongue inflammation and mouth sores	Red meat, poultry, fish, fortified cereals, some vegetables and nuts
Vitamin B3 (niacin)	A lack of vitamin B3 can cause bad breath and canker sores	Chicken and fish
Vitamins B12 and B2 (riboflavin)	Mouth sores can develop with insufficient B12 and B2	Sources for B12: red meat, chicken liver, pork and fish, dairy products Sources for B2: pasta, bagels, spinach and almonds
Vitamin C	Helps produce collagen, the connective tissue that holds bone together; a deficiency may lead to bleeding gums and loose teeth	Sweet potatoes, raw red peppers and oranges
Vitamin D	Enables the body to absorb calcium, which helps build strong bones and teeth	Milk, egg yolks, fish and limited amounts of sunshine
Vitamin K	Helps synthesize three proteins in bone needed for strength; also noted for its role in blood clotting	Broccoli and leafy greens
Phosphorus	Needed for healthy bones and teeth, energy metabolism and acid base balance in the body	Milk, grains and lean meats
Zinc	Promotes strong bones and helps develop and maintain collagen	Seafood, meat and liver
Magnesium	Important for bone formation	Green vegetables, legumes and nuts
Potassium	Helps promote good mineral density and reduces calcium loss	Fruits and vegetables

Cariogenic foods are those that produce or promote the development of tooth decay.



No Risk for Cavities	Low Risk for Cavities	High Risk for Cavities
<ul style="list-style-type: none"> Nuts (almonds, peanuts) Sunflower and pumpkin seeds Popcorn Tuna fish Chicken, eggs Cottage cheese Cheese cubes (cheddar, gouda, etc.) Vegetables (ex: zucchini, broccoli, carrots, celery, cucumber, cauliflower, mushrooms, peas, peppers, tomatoes, turnips) Seltzer water Plain yogurt 	<ul style="list-style-type: none"> Milk Fresh fruits (ex: oranges, peaches, berries, apples, melons, pears, grapefruit, kiwi) Whole grain products 	<ul style="list-style-type: none"> Cookies Cake Candy Raisins and other dried fruits Fruit roll-ups Breakfast bars Doughnuts Soda crackers Pretzels Sweetened dry cereals Granola bars Sweetened beverages (fruit juices, pop, etc.)

High cariogenic (cavity causing) foods should be offered as part of a meal and followed by appropriate oral hygiene.

When a meal or snack cannot be followed by toothbrushing, it is best to offer low cariogenic foods.

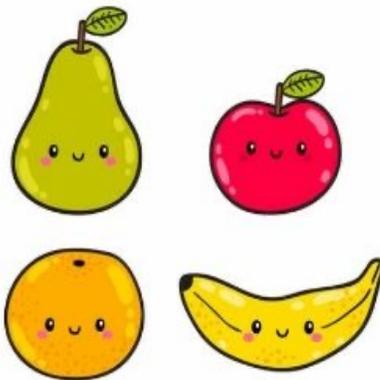
(Adapted from the Dept. of Education for Washington, DC - Nutrition and Oral Health for Children)



SNACK IDEAS

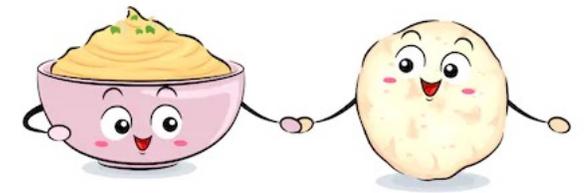
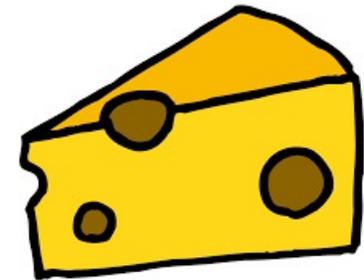
BAD SNACKS

- Chewy/sticky snacks like gummies and fruit snacks
- Granola bars
- Cookies
- Dried fruit, raisins
- Sports drinks
- Chocolate milk



- Raw veggies – celery, carrots, cucumber, peppers, mushrooms
- Fresh fruit – oranges, apples, bananas, peaches, kiwi, berries

- Cheese
- Nuts
- Dark chocolate
- Hummus
- Popcorn
- Plain yogurt
- Water



DRINKS

- **Water, water, water!** Water is the most important drink for your child's body, and their teeth
- Drinks other than water, much like snacks, need to be consumed at set times, or special occasions. Consuming frequent sugary drinks promotes tooth decay

Worried about your child's electrolytes during a sports game?

Offer a snack at half time that will replenish their sodium and potassium levels without high levels of sugar, like **fruits and vegetables**

Examples of drinks that **HIGH** in sugar and are recommended only a **limited basis**:

Juice

Slurpees

Pop/Soda

Energy Drinks

Tea with sugar, cream or milk

Sports Drinks

Iced Tea

Iced Cappuccinos



BREAST AND BOTTLE FEEDING

- At 3-6 months old, or weighing 12-13 lbs., babies are developmentally able to sleep through the night – they do not require feedings during the night

- Adapted from Stanford Children's Health, stanfordchildrens.org

- At-will breastfeeding should be avoided after the first primary (baby) teeth begin to erupt and other sources of nutrition have been introduced
- Practice routine feeding times throughout the day
- Children should be weaned from a bottle at 12-14 months old

- Adapted from the American Academy of Pediatric Dentistry, AAPD





- Adapted from the American Academy of Pediatric Dentistry, AAPD

- Children should not fall asleep with a bottle containing anything other than water
- Drinking juice from a bottle should be avoided
- Brush or wipe the teeth after nursing or bottle use
 - Wipe their teeth with a cloth, or their pajamas
 - Use a **grain-of-rice-sized** amount of fluoride toothpaste



SIPPY CUP AND WATER BOTTLES

- **WATER, WATER, WATER!** Water is the only drink that should be in a sippy cup or water bottle, throughout the day
- Other drinks, such as juice, milk, etc. at **mealtimes only**
- Fruit juice should only be offered in a cup with meals or at snack time

- Adapted from the American Academy of Pediatric Dentistry, AAPD



Table. Summary of Beverage Recommendations for Children, Ages 0-5 years^a

	0-6 months	6-12 months	12-24 months	2-5 years		Notes
Plain drinking water	No supplemental drinking water needed	Approximately 0.5-1.0 cups (4-8 oz.)/day in a cup. Begin offering during meals once solid foods are introduced.	1-4 cups (8-32 oz.) per day	2-3 years	4-5 years	Where an individual child falls within these ranges for 12 months to 5 years will depend on the amounts of other beverages consumed during the day.
				1-4 cups (8-32 oz.) per day	1.5-5 cups (12-40 oz.) per day	
Plain, pasteurized milk	Not recommended	Not recommended	2-3 cups (16-24 oz.) per day whole milk	2-3 years	4-5 years	For 12-24 months, reduced-fat (2%) or low-fat (1%) milk may be considered in consultation with a pediatrician, especially if weight gain is excessive or family history is positive for obesity, dyslipidemia, or other cardiovascular disease; the total amount of milk consumed during this age will depend on how much solid food is being eaten.
				Up to 2 cups (16 oz.) per day skim (fat-free) or low-fat (1%) milk	Up to 2.5 cups (20 oz.) per day skim (fat-free) or low-fat (1%) milk	
100% juice	Not recommended	Not recommended	Whole fruit preferred. No more than 0.5 cup (4 oz.) per day 100% juice.	2-3 years	4-5 years	Amounts listed for ages 12 months to 5 years are upper limits (not minimum requirements) that may be consumed only if fruit intake recommendations cannot be met with whole fruit.
				Whole fruit preferred. No more than 0.5 cup (4 oz.) per day 100% juice.	Whole fruit preferred. No more than 0.5-0.75 cup (4-6 oz.) per day 100% juice.	

Adapted from the American Academy of Pediatric Dentistry

Table. Continued

	0-6 months	6-12 months	12-24 months	2-5 years	Notes
Plant milk/Non-dairy beverages	Not recommended	Not recommended	Not recommended for exclusive consumption in place of dairy milk; consume only when medically indicated (e.g., cow's milk allergy or intolerance) or to meet specific dietary preferences (e.g., vegan)	Consume only when medically indicated (e.g., allergy or intolerance) or to meet specific dietary preferences (e.g., vegan)	Consumption of these beverages as a full replacement for dairy milk should be undertaken in consultation with a health care provider so that adequate intake of key nutrients commonly obtained from dairy milk can be considered in dietary planning.
Flavored milk	Not recommended	Not recommended	Not recommended	Not recommended	Added sugars intake should be avoided in children <2 years old and minimized in children 2-5 years old to avoid contributing to early establishment of a preference for sweet taste as well as potential negative impacts on nutrient intake and diet quality.
Toddler milk	Not recommended	Not recommended	Not recommended	Not recommended	These products offer no unique nutritional value beyond what a nutritionally adequate diet provides and may contribute added sugars to the diet and undermine sustained breastfeeding.
Sugar-sweetened beverages (SSB)	Not recommended	Not recommended	Not recommended	Not recommended	Strong evidence demonstrates the adverse health effects of SSB, which include, but are not limited to, soft drinks/soda, fruit drinks, fruit-flavored drinks, fruitades, sports drinks, energy drinks, sweetened waters, and sweetened coffee and tea beverages.
Beverages with low-calorie sweeteners (LCS)	Not recommended	Not recommended	Not recommended	Not recommended	This recommendation is based on expert opinion given that early childhood is a critical developmental period, and there is a lack of evidence regarding the long-term health impact(s) of LCS consumption in young children.
Caffeinated beverages	Not recommended	Not recommended	Not recommended	Not recommended	Caffeinated beverages are not appropriate for young children.

FLUORIDE

Recommended by over 90 national and international governmental and professional health organizations, including:

Health Canada

Canadian Dental Association

Canadian Pediatric Society

American Dental Association

Canadian Medical Association

US Food and Drug Administration

World Health Organization

FDI World Dental Federation

Fluoride can be applied:

TOPICALLY (directly on the teeth)

- Acts on the teeth in your mouth
 - Toothpaste
 - Mouth rinse
 - Gels and foams
 - Varnish

SYSTEMICALLY (ingested)

- Acts on developing teeth under the gums
 - Community water
 - Supplements



PROS

- Prevents tooth decay
- Strengthens tooth enamel
- Lowers the amount of acid in your mouth
- Rebuilds minerals that make teeth stronger

Appropriate amounts of fluoride toothpaste:



Grain of Rice Size
(child cannot spit)

Pea Size
(when child can spit)

CONS

- Dental fluorosis
 - Small white spots to large brown spots on outer layer of teeth
 - Cannot get fluorosis once your adult teeth have grown in
 - 16% of Canadians have mild fluorosis
 - Moderate/severe levels are too low to report

(Adapted from the Canadian Health Measures Survey, canada.ca)

- Skeletal fluorosis
 - Hardening of bones and joints

(This is extremely rare in Canada due to limited fluoride ingestion)

(Adapted from the Canadian Health Measures Survey, canada.ca)

City	Fluoride	River	Comments
Airdrie	0.1 – 0.4 mg/L	Elbow River	https://www.calgary.ca/uep/water/drinking-water/fluoride.html
Bowden	0.1 mg/L	Red Deer River	http://www.mountainviewwater.com/water-quality-reports/RoutineOct2019.pdf
Bragg creek	0.1 -0.4 mg/L	Elbow River	
Calgary	0.1 – 0.4 mg/L	Elbow River	https://www.calgary.ca/uep/water/drinking-water/fluoride.html
Carstairs	0.1 mg/L	Red Deer River	http://www.mountainviewwater.com/water-quality-reports/RoutineOct2019.pdf
Chestermere	0.1 – 0.4 mg/L	Elbow River	https://www.calgary.ca/uep/water/drinking-water/fluoride.html
Cochrane	0.12 mg/L	Bow River	https://www.cochrane.ca/Faq.aspx?QID=225
Crossfield	0.1 mg/L	Red Deer River	http://www.mountainviewwater.com/water-quality-reports/RoutineOct2019.pdf
Didsbury	0.1 mg/L	Red Deer River	http://www.mountainviewwater.com/water-quality-reports/RoutineOct2019.pdf
Elkana	0.1 -0.4 mg/L	Elbow River	
High River	0.2 mg/L		https://highriver.ca/water
Innisfail	0.1 mg/L	Red Deer River	http://www.mountainviewwater.com/water-quality-reports/RoutineOct2019.pdf
Langdon	0.05 mg/L		https://langdonwaterworks.ca/wp-content/uploads/2020/05/water_test_results_2018.pdf
Okotoks	0.2 mg/L	Sheep River	https://www.okotoks.ca/town-services/public-works/water-sewer/fluoride-removal
Olds	0.1 mg/L	Red Deer River	http://www.mountainviewwater.com/water-quality-reports/RoutineOct2019.pdf

1 MG/L = 1 PPM

Recommended supplemental fluoride concentrations for children

Age of Child	Fluoride Concentration
0 to 6 months	None
> 6 months to 3 years	0.25 mg/day
> 3 to 6 years	0.5 mg/day
> 6 years	1.00 mg/day

Total daily fluoride intake from all sources should not exceed 0.05-0.07 mg F / kg body weight

WATER FILTERS

CARBON FILTRATION

- “Brita” filters
- They use a simple carbon gravel for the filter, which removes some chlorine and pesticides
- These filters do not remove fluoride from the water

REVERSE OSMOSIS

- They include a filter layer that is so small that only water molecules will pass through it
- Because fluoride molecules are larger than water molecules, reverse osmosis filters out fluoride effectively

FYI: Bottled water is not required to disclose how much fluoride is present in their water!

XYLITOL

- Xylitol is a natural occurring sugar alcohol used frequently as a sweetener
- Xylitol as well as other sugar alcohols are not readily metabolized by oral bacteria, and thus are considered **non-cariogenic (non-cavity causing) sugar substitutes**
- Studies have shown xylitol to be effective for increasing bone density, promoting weight loss, contributing to the stabilization of blood sugar and the reduction of insulin levels, and for improving oral health.



Xylitol is available in many forms:

- Gums
- Candy/Mints
- Oral wipes
- Toothpastes
- Mouthwash



(Adapted from the American Association of Pediatric Dentistry, and the Ontario Dental Hygienist's Association)



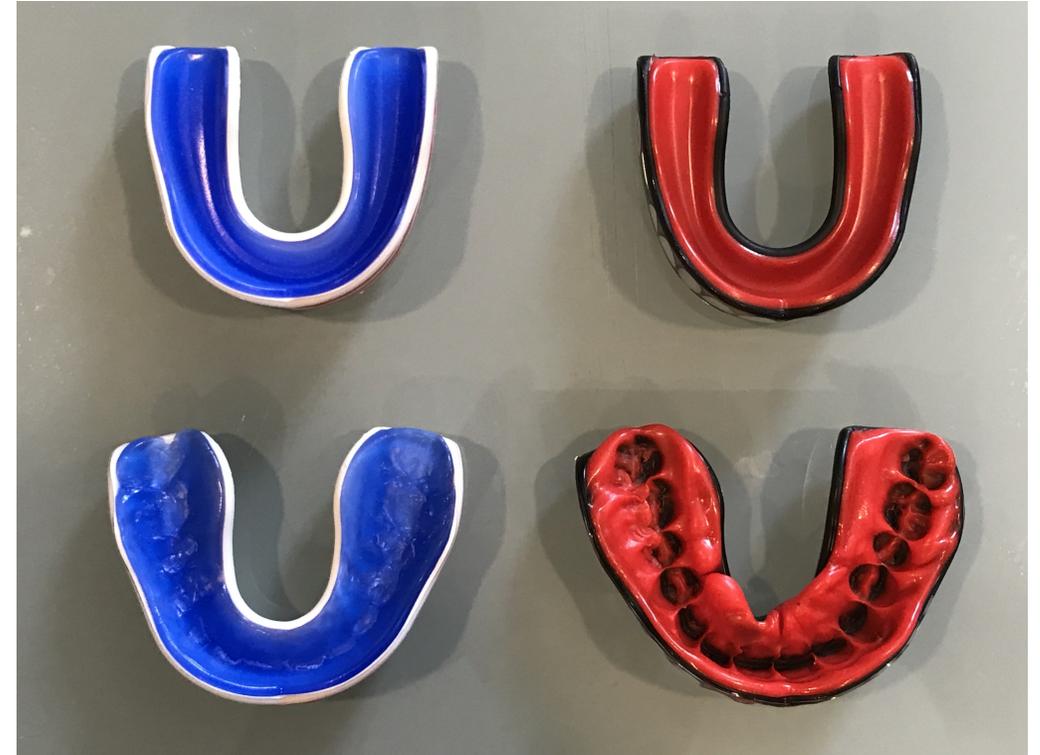
SPORTSGUARDS

- The tremendous popularity of organized youth sports and the high level of competitiveness have resulted in a significant number of dental and facial injuries
- Dental and facial injuries can be reduced significantly by introducing protective equipment, like **sportsguards!**



SPORTSGUARDS

- A sportsguard can protect your child's teeth, tongue, cheeks, lips, and jaw, and has been shown to protect from concussions, and neck injuries
- A properly fitted mouthguard of 3.0mm thickness might reduce the incidence of concussion injuries from a blow to the jaw by positioning the jaw to absorb the impact forces which, without it, would be transmitted through the skull base to the brain



Due to your child's changing teeth, we recommend a "boil and bite" sportsguard that can be re-molded as teeth erupt and move

VAPING AND E-CIGARETTES

There isn't a lot known about what the vapour in the e-cigarettes , however there are some facts to know about it:

What is in it?

Most is either a Vegetable Glycerine or a Propylene Glycerin combined with water, nicotine, and flavouring.

Who's doing it?

In December 2017, Canadian Tobacco, Alcohol and Drugs Survey found that 15% of Canadians had tried e-cigarettes. **23% were 15-19 years old**, 29% were 20-24 years old and 13 % were over 25. 19% were males and 12% were females.

HEALTH AND DENTAL CONCERNS OF VAPING

Vaping promotes **periodontal disease and dental caries**.

The Vegetable/Propylene Glycerine are high viscosity which means it can **stick to your teeth** and combined with flavouring (which has a form of sugar in it) can **cause cavities**.

The Nicotine in some e-cigarettes have **all the same concerns as smoking cigarettes** such as heart disease, stroke, lung cancer and chronic obstructive pulmonary disease.

In teens it can **alter brain development**.

The flavouring in the liquid which is called Diacetyl is also been linked to a lung disease called bronchiolitis obliterans or **“popcorn lung”** which is the damaging of the smallest airways in your lungs.

There is still so much unknown on the effects of vaping – Just don't do it!



**VAPING NICOTINE CAN ALTER
TEEN BRAIN DEVELOPMENT**

CONSIDER THE CONSEQUENCES

Canada.ca/vaping-info