BC Pediatric Nutrition Guidelines

(Birth to Six Years)

FOR HEALTH PROFESSIONALS

December 2022

BRITISH COLUMBIA | Ministry of Health

BC Centre for Disease Control
Provincial Health Services Authority

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Background

This document outlines evidence-informed nutrition and feeding guidelines for healthy, full-term infants and children from birth to six years of age. It is a reference guide for all health professionals who work with infants and children in British Columbia (e.g. family physicians, dietitians, nurses, nurse practitioners, midwives, etc.). Relevant resources are provided at the end of the document for more detailed information.

The Guidelines suggest when additional action, investigation and/or referral may be needed for infants and children who present with feeding or nutrition concerns or parents needing additional support.

This document is based on Ontario's Pediatric Nutrition Guidelines (Birth to Six Years) for Health Professionals and is reproduced with permission from the Ontario Dietitians in Public Health (ODPH). Content has been adapted to fit the BC context and align with provincial nutrition policy and messaging. Recommendations related to sugary drinks were based on the *Provincial Messages for Sugary Drinks Across the Life Course* developed by the Office of Nutrition Policy and Promotion at the Ministry of Health. The food allergy prevention recommendations were informed by the UBC CPD course *Preventing Food Allergies in Infants: Early Introduction to Allergenic Solids*. This course was developed and launched in October 2021 by ChildHealth BC and BC Centre for Disease Control with input from pediatric allergists and updated in summer 2022.

Guiding Principles

Health professionals are encouraged to interact with parents considering:

- **Social determinants of health:** Systemic issues such as structural racism (past and present), ongoing impacts of colonialism, trauma, and poverty all affect access to the necessary resources to acquire food. They also impact an individual's ability to access culturally safe care, gain health literacy skills, secure stable housing, and develop a healthy support network. Health professionals should understand how the social determinants of health can prevent their clients from accessing a nutritious diet or maintaining optimal physical and mental health needed to create a healthy feeding environment for their children.

- **Strengths-based and wellness-centered approaches** that acknowledge the strengths and skills of clients, and support clients to consider, express, and adapt according to their preferences, wants, or needs.

- **Compassionate care that is family-centred, culturally safe and relevant, gender affirming, trauma informed, and inclusive** with the understanding that dietary habits, chronic disease, and poor health outcomes may be a result of adverse experiences and not individuals' choices. Health professionals should be aware of personal and systemic biases around different client experiences with food, and avoid shaming, stigma and blame.

> Prior to engaging with a client, check in on your own judgements, assumptions, and biases and be mindful of how you reflect that on your discussion around food and nutrition through your language and actions. Ensure you always follow a client's lead. First, ask about your client's needs and goals and acknowledge that these may change. Offer content and resources that show the multiple dimensions of nourishment in people's lives and support healing and a healthy relationship with food.

- **Provision of care to support families in developing a positive feeding relationship between parent and child:** BC supports the use of the Satter Division of Responsibility in Feeding as a model to operationalize responsive feeding.

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Acknowledgements

Provincial Health Services Authority (PHSA) thanks the more than fifty dietitians, nurses, lactation consultants, dental hygienists, family physicians, pediatricians, midwives and other health professionals from throughout the province who reviewed the guidelines and provided feedback. A special thanks to the Population and Public Health teams who helped coordinate the review process in First Nations Health Authority, Fraser Health Authority, Interior Health Authority, Island Health Authority, Northern Health Authority, and Vancouver Coastal Health Authority. Also, a special thank you to Dietitian Services at HealthLinkBC, BC Ministry of Health, Child Health BC, Perinatal Services BC, BC Pediatric Society, BC Children's Hospital, British Columbia Lactation Consultants Association, the Midwives Association of BC, and and the Healthy Start Working Group who contributed to reviewing the guidelines. Your time, expertise and knowledge are truly appreciated.

A Note on Gender Inclusion and the Language of This Document

We acknowledge all individuals, regardless of sex and/or gender identity or expression may be in a feeding relationship with their baby/child. The term "parent" is used throughout this document and refers to a parent or caregiver who is involved in the child's care.

We also acknowledge that this document refers to breastfeeding. Breastfeeding is traditionally understood to involve an individual of the female sex and gender identity who also identifies as a woman and mother.

However, it is important to recognize that there are individuals in a parenting and human milk feeding relationship with a child who may not self-identify as such and who may prefer to use the term "chestfeeding" rather than breastfeeding. Health professionals are advised to partner with clients to explore gender affirming language and to use that language accordingly.

Definitions

Determinants of Health
The range of personal, social, economic, and environmental factors which determine the health status of individuals or populations (as per WHO)

Eating pattern
Refers in this document to what a family eats and drinks on a regular basis. This can be influenced by culture, food access and availability, lifestyle choices (as per Health Canada)

Effective infant feeding
Infant exhibits signs of milk transfer, indicating they are feeding well: sounds of swallowing, satiety following feedings, appropriate output (stool and urine)(as per the Public Health Agency of Canada)

Guidelines
Evidence-informed recommendations for nutrition and feeding

Infants
Refers to 0-6 months (as per Baby's Best Chance)

Milestones
Marker or point in development related to feeding

Responsive, cue-based feeding
Refers to watching for infant's cues and responding when infant signals readiness to feed, the need for a break during the feeding or when hunger is satiated, for both breastfed and bottle-fed infants (as per Breastfeeding Committee for Canada)

Sugary drinks
Refers to beverages that can contribute to excess free sugars. These include soft drinks, fruit-flavoured drinks, 100% fruit juice, flavoured waters with added sugars, sport and energy drinks, and other sweetened hot or cold beverages, such as iced tea, cold coffee beverages, sweetened milks, and sweetened plant-based beverages (as per Health Canada)

Supplemental feeding
Any oral fluid (except vitamins, minerals and medications) other than human milk given to a breastfed infant (as per Breastfeeding Committee for Canada)

Toddler
Refers to 6-36 months (as per Toddler's First Steps)

0 - 6 months

Milestones

By 1 month

- Feeds effectively[1]
- Continues to require feeds during the night

Spitting up small amounts after feeding is very common and is not a concern if infant is growing and otherwise well.

By 2 months

- Feeds effectively[1]
- Continues to require feeds during the night

By 4 months

- Continues to require feeds during the night
- Follows a moving toy or person with eyes[2]
- *Before* they are ready to eat solids, may start showing an interest in foods others are eating. Signs can range from staring and following food with eyes to drooling or smacking lips at the sight of people eating. See below for signs of physiological and development readiness at 6 months.

At about 6 months of age, healthy term infants are developmentally ready for the introduction of complementary foods. Signs of physiological and developmental readiness include:

- Better head control[3] *and*
- Ability to sit up and lean forward[3] *and*
- Ability to pick up food and try to put it in their mouth[3] *and*
- Ability to let the parent know when they are full (turns head away).[3]

Gagging is a normal reflex when babies are learning how to eat solids and is not the same as choking.

Guidelines

Fluids

- Recommend exclusive breastfeeding for the first 6 months.[2,3] Encourage sustained breastfeeding beyond six months, up to 2 years and beyond, for as long as parent and child wish to continue.[1] Provide anticipatory guidance about the importance of breastfeeding, what to expect with breastfeeding, and where to get help if challenges arise. Work with parents to identify and address breastfeeding concerns early.
- If feeding directly at the breast is not possible or not preferred or if supplemental feeding is required[4]:
  - the first choice of supplement is the parent's own expressed milk.[1,2]
  - If the parent's own milk is not adequately available, the next best choice of supplement is pasteurized donor human milk from BC Women's Provincial Milk Bank.

0 - 6 months

Note that supplies are limited and that this milk is prioritized for babies in Neonatal Intensive Care Units.
- The final choice of supplement is commercial infant formula, prepared safely.[3]

- The protective effects of breastfeeding are dose dependent. Assist families who provide supplemental feedings (e.g. when separated or if medically indicated) with support to preserve and improve breastfeeding.
- For parents who have made the decision to use commercial infant formula, provide non-judgmental information and support.[1] See *Additional Information — Infant Feeding: Informed Decision Making* and *Commercial Infant Formula*.
- Encourage parent to follow infant's hunger and fullness cues, known as responsive, cue-based feeding.[1,2]
  - Hunger cues may include: baby brings hand to mouth, roots (moves head towards person holding), opens mouth, licks lips, sucks, acts fussy, cries (crying is a late hunger sign, but **not all crying means hunger**).
  - Fullness cues may include: baby closes mouth, turns head away, pushes breast/bottle away. Remind parents to stop feeding when infant demonstrates these fullness cues even if milk still remains in the bottle.
- Reassure parents that feeding at night is normal and protective.
  - Frequent night waking is a normal component of infant sleep and a response to their need to feed frequently.
  - Nighttime feeding helps to establish breastfeeding and milk supply and is an important part of the feeding relationship, especially in the early months.
  - Breastfeeding is a protective factor for safer sleep. Night waking is protective for babies (birth to 4 months old) against sudden, unexpected infant death during sleep.
  - Waking to feed during the night is normal during the first year of life, and potentially even beyond.
- Recommend a daily liquid vitamin D supplement of 400 IU (10 mcg) for infants who receive human milk or a combination of human milk and infant formula.[3] Infants who receive only formula do not need a vitamin D supplement because vitamin D is added into formula.[3]
- Avoid water unless medically indicated until about 6 months.[3] Avoid fruit juice[2,5] and other liquids (including animal milk, herbal teas, and plant-based beverages).[5]

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0 - 6 months

Food

- During an infant's 4-month visit:
  - Provide anticipatory guidance about signs of readiness for introduction of solids and recommend iron-rich foods (e.g. meat, poultry, fish, eggs, tofu, legumes, iron-fortified cereals) be introduced first, at about six months.[3]
  - Discuss and determine if infant is at increased risk for developing a food allergy (i.e. has a personal history of atopy, including eczema, or has a biological parent or sibling with atopy, e.g. atopic dermatitis, food allergy, asthma or allergic rhinoconjunctivitis).[6]
    - If infant is at increased risk, provide anticipatory guidance on introduction of common allergenic foods at about 6 months of age (but not before 4 months and only if the infant is developmentally ready).[6,7] See guidance in the 6-9 months section.
- Avoid honey, including pasteurized or cooked honey until after 12 months (risk for infant botulism).[5] See *Additional information – Food Safety* for full list of food safety considerations.

Feeding Relationship

Encourage parent to continue to follow infant's hunger and fullness cues, known as 'infant-led', 'on-cue', or 'cue-based' feeding.[1–3]

- For all infant feeding methods, recommend responsive, cue-based feeding.[1,3]
- If solids are introduced before 6 months, refer to *Feeding Relationship* in the 6-9 months section.

Supporting families with feeding/nutritional concerns

Families with these concerns may benefit from education, further assessment, follow-up, or referral to primary care provider, lactation consultant, public health nurse, registered dietitian, or infant development team.

Examples in this age group:

Parent concerns

- Worries about food security
- Challenges with safely preparing and storing commercial infant formula
- Parent has symptoms of depression that may increase breastfeeding difficulties[8]

Growth concerns[9].

See *Additional Information – Growth Monitoring*

Developmental concerns

- Not showing signs of readiness for solids at about 6 months of age

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0 - 6 months

Feeding concerns

- Challenges with latching/breastfeeding including lactating parent reporting pain
- Feedings are forced (e.g. despite the infant displaying fullness cues, parent attempts to get infant to finish a bottle), restricted (e.g. despite the infant displaying hunger cues)[3] ; skipped (in attempts to facilitate longer sleep times) or regimented
- Offered cow or goat milk (including pasteurized or raw), plant-based beverages (e.g. soy, rice, almond, oat, cashew), or homemade formula[3]
- Offered fluids other than human milk or infant formula[3,10]
- Offered complementary foods too early (before showing signs of developmental readiness)
- Offered a bottle with added cereal in it[3]
- Fed using a propped bottle or unsupervised during feeding[3]

Nutrient concerns

- Increased risk for iron deficiency or iron deficiency anemia (e.g. maternal iron deficiency, prematurity/low birth weight, malabsorption, parental food insecurity/poverty, fed anything other than human milk or commercial infant formula)

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6 - 9 months

Milestones

Between 6 - 9 months

- Has some tongue protrusion[11] and/or early gag reflex[12] when beginning to eat solid foods, which decreases with experience.
- Often requires a number of exposures to new foods before accepting them.[12]

Guidelines

Fluids

- Encourage to continue breastfeeding/ providing human milk. Promote the importance of breastfeeding beyond 6 months while supporting the lactating parent regarding their decision.[5]
- If a decision is made to use commercial infant formula, ensure that the parent has all the information needed, and support and educate as required to choose and prepare formulas that are acceptable, feasible, affordable, sustainable and safe.[1] See *Additional Information – Infant Feeding: Informed Decision Making* and *Commercial Infant Formula*.
- Regardless of feeding method, recommend feeding according to hunger and fullness cues.[1,5]
- Reassure parents that night-time feeds are normal during the first year of life.
- Recommend a daily liquid vitamin D supplement of 400 IU (10 mcg) for toddlers who are receiving human milk or a combination of human milk and infant formula. Babies who receive only formula do not need a vitamin D supplement because vitamin D is added into formula.[5]
- Small amounts of plain water can be offered from an open cup.[5] Water should not displace human milk or infant formula in the first year of life.
- Recommend the delay of cow milk (or fortified goat milk) until 9 - 12 months due to its low iron content potentially displacing iron-rich foods, and risk of iron deficiency with early introduction.[5]
- Advise to avoid sugary drinks, including 100% fruit juice[10], sweetened milks and sweetened plant-based beverages.

Food

- Recommend introduction of complementary foods at about 6 months when toddler is developmentally ready.
- To increase acceptance of foods/ textures and reduce the risk of food allergy[6,7], advise to avoid delaying the introduction of solid foods beyond about 6 months.
- Solid foods can be offered before or after human milk or formula feedings. The order may change depending on what works best for the parent and toddler.[5]

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6 - 9 months

- To support feeding skills and increase acceptance of a variety of textures, recommend introduction of foods with a soft texture such as lumpy, tender-cooked and finely minced, pureed, mashed or ground, and finger foods, starting at about 6 months of age.[5] Avoid foods that are choking hazards. See *Additional Information – Safe Feeding Practices*.
- Emphasize that iron-rich foods like meat, poultry, fish, eggs, legumes and iron-fortified cereals be offered first and offered 2 or more times per day.[5] See *Additional Information – Iron*.
- After introducing iron-rich foods, recommend introduction of a variety of vegetables, fruit, grains, cheese and yogurt in any sequence.[5]
- For toddlers at increased risk for developing food allergies, and based on developmental readiness, discuss introducing common allergenic foods at about 6 months of age (but not before 4 months of age)[6, 7], starting with common allergenic foods that are eaten at home and part of the family diet, such as peanut butter (smooth or thinned)[6], cooked egg[6], fish and soy. See *Additional Information – Food Allergy Prevention*.
  - Recommend introduction of food allergens one at a time without unnecessary delay[6] between each food. New foods can be introduced at each meal or 3 to 4 hours apart. This allows enough time to gauge toddler's reaction to an individual food.
    - Start with a small amount (e.g. a tiny bite or a sip) before trying a little bit more (e.g. 1/8–1/4 teaspoon) around 15–20 minutes later.
    - If there are no reactions, the food should then be incorporated into the diet regularly (e.g. at least 2-3 times per week) to help reduce the chance of allergy in the future.
  - Encourage parent to continue to offer regularly common allergenic foods that the family eats and that are tolerated to promote tolerance.[6,7]
- Recommend foods from the family meal, prepared with little or no added salt or sugar and mashed or chopped into safe texture.[5]
- Recommend fish but limiting fish higher in mercury.
- To prevent food-borne illness, advise to avoid honey, including pasteurized or cooked honey, until 1 year of age (due to risk for infant botulism).[5] See *Additional information – Food Safety*.

6 - 9 months

Feeding Relationship

- Encourage responsive feeding, based on the principles of the Satter Division of Responsibility in Feeding.[13] See *Additional Information – Parental Influences on Eating Habits*.
  - The parent is responsible for *what* foods to offer and is becoming responsible for *when* and *where* the child is fed.[13]
  - The child is responsible for *how much* and *whether* to eat the foods offered.[13]
- Advise to work towards providing a routine of 3 - 5 solid food feedings per day based on family meal and snack times, letting child decide how much to eat and whether to eat at each meal and snack time.
- Encourage offering a small amount of solid food to start, and offering more based on toddler's interest.
- Encourage parent to sit down and eat with toddler as often as possible.[5]

See *Additional Information – Parental Influences on Eating Habits*.

Supporting families with feeding/nutritional concerns

Families with these concerns may benefit from education, further assessment, follow-up, or referral to primary care provider, lactation consultant, public health nurse, registered dietitian, or infant development team.

Examples in this age group:

Parent concerns

- Worries about food security
- Concern/anxiety about feeding or child's growth
- Challenges with safely preparing and storing commercial infant formula

Growth concerns[9]

See *Additional Information – Growth Monitoring*.

Developmental concerns

- Not showing signs of readiness for solids at about 6 months of age

Feeding concerns

- Feedings are forced or restricted despite the child displaying fullness or hunger cues.
- Food selection or intake is restricted due to food insecurity, food allergy/intolerance, food dislikes, limited exposure to a variety of foods or family's eating pattern (e.g. vegan). See *Additional Information – Food Insecurity*.
- Offered foods that are choking hazards. See *Additional Information – Safe Feeding Practices*.
- Offered foods that are unpasteurized/unsafe. See *Additional information – Food Safety*.
- Unsupervised during feeding.
- Offered cow or goat milk or plant-based beverages (e.g. soy, rice,

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6 - 9 months

almond, cashew, oat) or homemade infant formula.[5]
- Symptoms/reactions to specific foods that could be due to allergy/sensitivity.
- Offered sugary drinks[5] including 100% fruit juice, or beverages containing sugar substitutes or caffeine.

Nutrient concerns
- Not consuming iron-rich foods 2 or more times per day.[5]
- Increased risk for iron deficiency (e.g. born premature, solids not introduced at age 6-7 months, introduced to animal milk before age 9 months). See *Additional Information – Iron*.

Dental health concerns
- Signs of tooth decay or poor oral/ dental health.

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9 - 12 months

Milestones

By 9 months

- Sits without support[2]

Between 8 - 12 months

- Lateral movements of the tongue are developed allowing food to be moved to the teeth (which enables biting and chewing of chopped foods and a greater variety of finger foods).[11]
- Uses jaw and tongue to bite and mash a variety of textures.[11]
- Feeds self with fingers by holding small foods between thumb and forefinger; tries to use spoon.
- May prefer to feed self with fingers or spoon.
- Often requires a number of exposures to new foods before accepting them.[12]

Guidelines

Fluids

- Encourage to breastfeed for as long as parent and toddler wish to continue. Promote the importance of breastfeeding beyond 9-12 months while supporting the parent regarding their decision.[5]
- Recommend a daily liquid vitamin D supplement of 400 IU (10 mcg) for toddlers who are receiving human milk or a combination of human milk and infant formula. Toddlers who receive only formula do not need a vitamin D supplement because vitamin D is added into formula.[5]
- Reassure parents that animal milk is not required for toddlers who continue to receive human milk.
- For formula-fed toddlers, cow milk can replace commercial infant formula starting at 9 months.
- For parents who plan to offer cow milk, pasteurized whole (3.25% M.F.) plain cow milk may be introduced in an open cup when the child is eating a variety of iron-rich foods (beef, legumes, eggs and fish) daily.
  - Recommend 500 mL (2 cups) per day.
  - Pasteurized, full-fat fortified goat milk may be given as an alternative to cow milk.[5]
  - Intake of cow milk (or goat milk) should not exceed 750 mL (3 cups) per day.[5]
- Inform that plant-based beverages (plain or sweetened) should not be offered to toddlers under the age of 2 years.[5]
- Sips of water can be offered in an open cup anytime.
- Advise to avoid sugary drinks, including 100% fruit juice[10], sweetened milks and sweetened plant-based beverages.

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9 - 12 months

- Inform parents that beverages containing sugar substitutes and/or caffeine and energy drinks should not be offered. See *Additional Information — Sugar Substitutes*, *Caffeine* and *Energy Drinks*.
- For toddlers who have been fed by bottle, the transition to an open cup should begin by approximately 12 months and be completed by 18 months.[5]

Food

- By 12 months of age, toddlers are eating a variety of family foods with various textures, chopped/mashed/shredded for safety. (5) See *Additional Information – Safe Feeding Practices*.
- Recommend to offer iron-rich foods 2 or more times per day. (5) See *Additional Information – Iron*.
- Encourage parent to offer (without pressure) rejected foods a number of times to increase exposure and familiarity.
- For toddlers at increased risk for developing food allergies, advise to continue to offer regularly common allergenic foods that the family regularly eats and that are tolerated (e.g. at least 2-3 times per week) to promote tolerance.[6,7] See *Additional Information – Food Allergy Prevention*.
- Do not restrict fat intake. Offer higher fat milk products including yogurt with >2% M.F. or cheese with >20% M.F.
- Recommend fish but limiting fish higher in mercury.
- To prevent food-borne illness, advise to avoid honey, including pasteurized or cooked, until after 1 year of age.[5] See *Additional Information –Food Safety* for full list of food safety considerations.

Feeding Relationship

- Encourage responsive feeding, based on the principles of the Satter Division of Responsibility in Feeding.[13] See *Additional Information – Parental Influences on Eating Habits*.
  - The parent is responsible for *what* foods to offer and *when* and *where* the child is fed[13]
  - The child is responsible for *how much* and *whether* to eat the foods offered[13]
- Recommend to provide a routine of 3 meals and 1 to 2 planned sit-down snacks per day based on family meal and snack times. Include toddler in family meals whenever possible.[5] See *Additional Information – Parental Influences on Eating Habits*.
- Encourage offering a small amount of solid food to start, and offering more based on child's interest.
- Encourage parent to sit down and eat with child as often as possible.

9 - 12 months

Supporting families with feeding/nutritional concerns

Families with these concerns may benefit from education, further assessment, follow-up, or referral to primary care provider, public health nurse, or registered dietitian.

Examples in this age group:

Parent concerns

- Worries about food security.
- Concerns about toddler's growth.
- Concerns or anxiety about feeding.

Growth concerns [9]

See *Additional Information – Growth Monitoring*

Developmental concerns

- By 9 months, lumpy textures have not been introduced or consumed.[5]

Feeding concerns

- Feedings are forced or restricted despite the child displaying fullness or hunger cues.[5]
- Food selection and intake is restricted due to food insecurity, food allergy/intolerance, food dislikes or family's eating pattern.
- Offered foods that are choking hazards. See *Additional Information – Safe Feeding Practices*
- Offered foods that are unpasteurized/unsafe. See *Additional information – Food Safety*.
- Unsupervised during feeding.
- Symptoms/reactions to specific foods that could be due to allergy/sensitivity.
- Offered skim, 1% or 2% cow milk or goat milk (plain or sweetened) or homemade infant formula as main milk source.[5]
- Consumes plain or sweetened plant-based beverages (e.g. soy, rice, almond, cashew, oat) as main milk source.[5]
- Consumes more than 750 mL (3 cups) of cow or fortified goat milk per day.[5]
- Consumes sugary drinks[5], including 100% fruit juice, or beverages containing sugar substitutes or caffeine.

Nutrient concerns

- Does not consume iron-rich foods daily[5] or is at increased risk for iron deficiency. See *Additional Information – Iron*.
- Does not meet the recommended intake for vitamin D (400 IU/10 mcg).

Dental health concerns

- Frequently sips on sugary drinks and/or grazes/snacks (e.g. more than 6 meals/snacks per day), which can negatively affect teeth and appetite for meals.
- Signs of tooth decay or poor oral/dental health.

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12 - 24 months

Milestones

Growth slows compared with the first year which may result in decreased appetite and unpredictable food intake.[5, 14]

12 - 18 months

- Acquires full chewing movements.[5]

By 12 months

- Eats a variety of foods with various textures.[5]

By 18 months

- Eats most foods without coughing and gagging.

By 24 months

- Eats most of the same foods as the rest of the family with some extra preparation to reduce risk of choking and foodborne illness.[5]
- Eats with a utensil with little spilling[2].

Guidelines

Fluids

- Encourage to continue to breastfeed. Promote the importance of breastfeeding up to 2 years and beyond while supporting the parent regarding their decision.[5]
- For the toddler not receiving human milk, recommend 500 mL (2 cups) pasteurized whole (3.25% M.F.) cow milk (or full fat fortified goat milk) per day.[5]
  - Lower fat milk (e.g. skim, 1%, 2%) is not recommended before 2 years of age.[5]
  - Intake of cow milk (or fortified goat milk) should not exceed 750 mL (3 cups) per day.[5]
- For the toddler not receiving human milk and not offered pasteurized whole cow or goat milk (e.g. vegan toddler or for cultural, religious, or health reasons such as galactosemia), recommend continued use of a soy-based formula until 2 years of age.[5] As soy infant formula contains less calcium than cow milk (~ ½ the amount), other sources of calcium should be offered daily when soy infant formula is main milk source.
- Inform that plant-based beverages (e.g. soy, oat, cashew, almond), plain or sweetened, should not be offered to toddlers under the age of 2 years.[5]
- Recommend to offer plain water from an open cup with and between meal and snack times.[5] Frequent sipping of drinks other than plain water increases the risk of tooth decay.
- Emphasize that toddlers do not require pediatric nutritional supplement drinks [5] or multivitamin gummies, and that gummies are a choking hazard for children under 4 years.
- Advise to avoid sugary drinks, including 100% fruit juice[10],

12 - 24 months

sweetened milks and sweetened plant-based beverages.[5] If 100% fruit juice is given, limit to no more than 125 mL (½ cup) a day in an open cup and only as part of a meal or snack.[5]

- Inform parents that beverages containing sugar substitutes and/or caffeine and energy drinks should not be offered. See *Additional Information — Sugar Substitutes*, *Caffeine* and *Energy Drinks*.
- Advise that the transition from bottle-feeding to an open cup for all fluids should be completed by 18 months.[5]
- Recommend a daily liquid vitamin D supplement of 400 IU (10 mcg) for the toddler who:
  - is receiving human milk[5], or
  - is receiving <500 mL/day of cow milk[5] , or
  - has intake of cow milk and other vitamin D rich foods not sufficient to meet their vitamin D needs (600 IU or 15 mcg)

Food

- Recommend to continue offering iron-rich foods at each meal.[5] See *Additional Information – Iron*.
- Do not restrict fat intake. Offer higher fat dairy products including yogurt with >2% M.F. or cheese with >20% M.F.[5]
- Recommend offering foods from the family meal, chopped/minced as needed for safety and prepared with little or no added salt or sugar.[5]
- Recommend fish but limiting fish higher in mercury.

Feeding Relationship

- Encourage responsive feeding, based on the principles of the Satter Division of Responsibility in Feeding.[13] See *Additional Information – Parental Influences on Eating Habits*.
  - The parent is responsible for *what* foods to offer, *when*, and *where* the child is fed[13]
  - The child is responsible for *how much* and *whether* to eat the foods offered[13]
- Recommend to provide a routine of 3 meals and 2 to 3 planned sit-down snacks per day based on family meal and snack times[5, 14]
- Encourage offering a small amount of food to start, and offering more based on child's interest.
- Encourage parent sit down and eat with child as often as possible.[5, 14]

Supporting families with feeding/nutritional concerns

Families with these concerns may benefit from education, further assessment, follow-up, or referral to primary care provider, public health nurse, or registered dietitian.

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12 - 24 months

Examples in this age group:

Parent concerns

- Worries about food security.
- Concern or anxiety about feeding.
- Concern about toddler's growth.

Growth concerns[9] See *Additional Information – Growth Monitoring*.

Developmental concerns

- By 18 months, has not transitioned from bottle to an open cup.[5]
- Often coughs and gags when eating.

Feeding concerns

- Feedings are forced or restricted, despite the child displaying fullness or hunger cues.[5]
- Pressured to eat certain foods on their plate and in a certain order.
- Not eating a variety of textures and family foods.[5]
- Food selection or intake is restricted due to food insecurity, food allergy/intolerance, and/or food dislikes or family's eating pattern (e.g. vegan diet).
- Consumes mostly fluids and little solid food.
- Consumes skim, 1% or 2% cow milk or goat milk or plant-based beverages (e.g. soy, rice, almond, cashew, oat) as main milk source.[5, 15]
- Consumes sugary drinks, including 100 % fruit juice[10], sweetened milks and sweetened plant-based beverages.
- Dependent on pediatric nutritional supplement drinks to meet nutrition needs instead of a variety of foods.
- Unsupervised during feeding.[5]
- Offered foods that are choking hazards. See *Additional Information – Safe Feeding Practices*.

Nutrient concerns

- Not eating a variety of iron-rich foods at each meal.[5]
- Consumes more than 750 mL (3 cups) whole cow or goat milk per day, which can displace other foods and increase risk of iron deficiency.[5, 16]
- If not receiving human milk, formula is discontinued, and is not consuming 2 cups of cow milk (or fortified goat milk).
- Does not meet the recommended intake for vitamin D (600 IU/15 mcg).

Dental health concerns

- Unsupervised access to bottle or sippy cup containing anything but plain water.
- Frequently sips on sugary drinks or grazes/snacks (e.g. more than 6 meals/snacks per day).
- Signs of tooth decay or poor oral/dental health.

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2 - 6 years

Milestones

- Food consumption moderates to match a slower rate of growth.[14]
- Eats most foods without coughing and gagging.
- May vary day-to-day in how much they eat.[14, 17]
- May have periods of disinterest in food.[14]
- May need repeated neutral exposures to a new food (more than 15 times)[17] before eating it.[14]
- Progressing to adult eating pattern but needs adult modeling.[5,14] See *Additional Information – Parental Influences on Eating Habits*.

Guidelines

Fluids

- Encourage to continue to breastfeed for as long as child and parent want.
- For children no longer receiving human milk, recommend 500 mL (2 cups) of plain pasteurized cow milk (or fortified goat milk), or plain fortified soy or other plant-based beverage daily to help meet calcium and vitamin D needs. Avoid sweetened varieties.[5]
- If plant-based beverages other than fortified soy beverage are offered, steps should be taken (e.g. possible referral to dietitian) to ensure adequate provision of energy and protein from other food sources.[16]
- Recommend offering plain water when child is thirsty.[5]
- Advise to avoid sugary drinks, including 100% fruit juice[10], sweetened milks and sweetened plant-based beverages. If 100% fruit juice is given, limit to no more than 125 mL (½ cup) a day in an open cup and only as a part of a meal or snack.
- Inform parents that energy drinks and beverages containing sugar substitutes should not be offered to young children. Beverages containing caffeine should not be offered to children age 4 and under and should be limited for children 4-6 years. See *Additional Information — Caffeine*.

Food

- Recommend to provide a variety of family foods from Canada's food guide, aiming to include:
  - dark green vegetables every day
  - orange vegetables a few times a week
  - whole grains and whole grain foods every day
  - plant-based protein foods more often
- To prevent choking, modify or adapt foods that are choking hazards for children under 4 years.
- Recommend offering a variety of food sources of iron daily.
- Recommend offering a variety of food sources of calcium daily, including those that have a high calcium content such as milk, yogurt, kefir, cheese,

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2 - 6 years

fortified plant-based beverages, and tofu prepared with calcium.
- Recommend offering a daily food source of vitamin D. Recommend a daily vitamin D supplement of 400 IU (10 mcg) if child is not getting enough vitamin D from food and beverages sources. See *Additional Information – Vitamin D*.
- Recommend fish but limiting fish higher in mercury.
- Recommend limiting processed or packaged foods if possible.
- To prevent food-borne illness, advise to avoid unpasteurized foods and raw or lightly cooked sprouts until child is 5 years. See *Additional information – Food Safety* for full list of food safety considerations.

Feeding Relationship

- Encourage responsive feeding, based on the principles of the Satter Division of Responsibility in Feeding.[13] See *Additional Information – Parental Influences on Eating Habits*.
  - The parent is responsible for *what* foods to offer, and for *when*, and *where* the child is fed.[13]
  - The child is responsible for *how much* and *whether* to eat the foods offered.[13]
- Recommend to provide a routine of 3 meals and 2-3 snacks per day and include child in family meals whenever possible.[5] See *Additional Information – Parental Influences on Eating Habits*.
- Encourage parent sit down and eat with child as often as possible.[5]

Supporting families with feeding/nutritional concerns

Families with these concerns may benefit from education, further assessment, follow-up, or referral to primary care provider, public health nurse, or registered dietitian.
Examples in this age group:

Parent concerns

- Worries about food security
- Concern or anxiety about feeding
- Concern about child's growth

Growth concerns[9] See *Additional Information – Growth Monitoring*.

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2 - 6 years

Feeding concerns

- Pressured to eat certain foods in certain amounts (e.g. through praise, encouragement, food and non-food rewards, or physical parent-led feeding).
- Food selection or intake is restricted due to food insecurity, food allergy/intolerance, food preferences, or family's eating pattern.
- Does not eat a variety of foods from Canada's food guide.
- Consumes mostly fluids and little solid food.
- Rarely or never eats meals with their family.[14]

Nutrient concerns

- Does not eat iron-rich foods daily.
- Consumes more than 750 mL (3 cups) of milk, which can compromise iron status.[16]
- Is dependent on pediatric nutritional supplement drinks to meet nutrition needs instead of foods.[5]

Dental health concerns

- Consumes most of their milk and other beverages from a bottle or sippy cup.
- Consumes sugary drinks including 100% fruit juice[10], sweetened milks and sweetened plant-based beverages.[5]
- Has signs of tooth decay or poor oral/dental health.

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Additional Information

Food Insecurity: Supporting Families with Challenges Accessing Food

Food insecurity exists when external factors negatively impact a person's access to enough foods that promote wellbeing. Economic, social, environmental and geographical factors influence this access. Food insecurity is most acutely felt by those who experience the negative impacts of structural inequities, such as discrimination and ongoing colonial practices. Health professionals should understand how food insecurity may prevent their clients from accessing food.

> While it is important to be sensitive to these realities, health professionals should not assume anything based on a family's social identity (e.g., race, Indigenous identity, income, education, household composition, etc.). In all instances, health professionals should strive to provide culturally safe and trauma-informed care that centres the physical, mental and cultural needs of the family.

Household food insecurity refers to insufficient or inadequate access to food due to financial constraints. In BC, 1 in 7 (14.9%) households experience income-related food insecurity[18], and approximately 1 in 6 (16.9%) children live in food insecure households[18,19]. This does not include BC First Nations living on-reserve.

- Female lone-parent households had the highest rate of food insecurity at 38.1%, followed by male lone-parent households at 20.9%.[18]
- Indigenous peoples are disproportionately impacted by food insecurity. Colonialism, the Indian Act, the Indian Reservation System, and other ongoing colonial policies have all had devastating impacts on Indigenous food systems and overall wellbeing. Climate change has also impacted the accessibility and availability of traditional foods such as fish, wild game, and plants. 44% of BC First Nations households (on-reserve) reported being moderately food insecure and 11% reported being severely food insecure.[20]
- Black households are disproportionately impacted by food insecurity, with systemic racism being an underlying factor.[18]

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Resources exist to support health professionals in discussions about life circumstances that impact access to food that is affordable, culturally preferable, nutritious and safe. The Poverty Intervention Tool (BC wide version) developed by the Kootenay Boundary Division of Family Practice helps physicians identify socioeconomic challenges faced by clients and connects them with appropriate supports and services, such as social assistance programs. Northern Health Authority also developed guidelines for health professionals in addressing household food insecurity.

Resources for Health Professionals

Government of BC

Overview of BC Provincial and Federal Nutrition Benefits Programs

Government of Canada

Benefits Finder

Infant Feeding: Informed Decision Making

Health professionals' recommendations influence parents' feeding decisions. The prenatal period is a key time to initiate conversations with families to support informed decision making about infant feeding.

All parents and their families have the right to make a fully informed decision about infant feeding. In Informed Decision Making, parents receive evidence-informed information and support[1,21,22] to enable them to make choices about the best way to feed their infants, which include:

- The opportunity to discuss their concerns.[21]
- The importance of breastfeeding for baby, birthing parent, family and community.[21]
- The health consequences for baby and birthing parent of not breastfeeding.[21]
- The impact and cost of human milk substitutes.[21]
- The difficulty of reversing decisions once breastfeeding is stopped.[21]

Marketing of commercial infant formula disrupts informed decision-making and may undermine breastfeeding.

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- The recommended supplementation options for parents who have made an informed decision not to breastfeed, or who have chosen to supplement their babies are: [23]
  - Birthing parent's own expressed milk;
  - Pasteurized human donor milk from a regulated milk bank; and
  - Human milk substitute (e.g. commercial infant formula).
- If temporary supplementation is indicated for acceptable medical reasons [4], the importance of breastfeeding should be weighed against the risks posed by the use of commercial infant formulas.[21]
- Provide non-judgmental and supportive care for families who plan to use infant formula is essential, whether for medical, personal, or social reasons, and whether as a sole source of nutrition or as a supplement to human milk. These families should be supported on a 1:1 basis to choose commercial infant formulas that are acceptable, feasible, affordable, sustainable and safe. [21]
- For families who wish to feed with human milk but need to supplement, suggest strategies to maintain or increase milk supply, improve breastfeeding technique, and supplement in ways that better support breastfeeding, such as feeding by open cup.
- It is not the role of health professionals to promote informal milk sharing, however health professionals must be prepared to provide unbiased information on all infant feeding options based on the best available evidence.[23]
- Since it is difficult to reverse the decision to stop breastfeeding, offer early breastfeeding support (e.g. support in acute care, pumping to keep human milk supply up, local health unit or local infant feeding clinics, lactation consultant, and peer to peer support).[21]
- When discussing night feeding, refer to the Safer Infant Sleep Discussion Guide to inform shared decision-making conversations with parents on safer sleep options for infants.
- The informed decision making approach can be used to support parents in making decisions regarding the introduction of complementary foods and feeding toddlers and preschoolers to meet children's nutrition needs while incorporating families' cultural food choices.

Resources for Health Professionals

Baby-Friendly Initiative Strategy Ontario

Informed Decision Making: Having Meaningful Conversations Regarding Infant Feeding

Perinatal Services BC

Informal (Peer-to-Peer) Milk Sharing: The Use of Unpasteurized Donor Human Milk Practice Resource for Health Care Providers

Safer Infant Sleep Practice Resource

Public Health Agency of Canada

Family-Centred Maternity and Newborn Care: National Guidelines (Chapter 6)

Protecting, Promoting and Supporting Breastfeeding: A Practical Workbook for Community-Based Programs-2nd Edition

WHO/UNICEF

The International Code of Marketing of Breast-Milk Substitutes

Report: How the Marketing of Formula Milk Influences Our Decision on Infant Feeding

Resources for Parents

First Nations Health Authority

Breastfeeding Wellness Teachings for Mothers, Families and Communities

Fraser Health

Getting started and common breastfeeding/chestfeeding challenges

HealthLinkBC

Baby's Best Chance

Breastfeeding

VIDEO: Baby's Feeding Cues and Behaviours

VIDEO: Breastfeeding Positions

VIDEO: Hand Expressing Breastmilk

More Milk Sooner

VIDEO: Power of the First Hours

VIDEO: Roadmap for day zero-three

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Perinatal Services BC

Breastfeeding My Baby

Information for Families: Informal (Peer-to-peer) Milk Sharing

Public Health Agency of Canada

10 Great Reasons to Breastfeed your Baby

10 Valuable Tips for Successful Breastfeeding

Parental Influences on Eating Habits

Parents and other caregivers shape the development of children's eating behaviours by the foods they make available to children, their own eating styles, behaviour at mealtimes, and child feeding practices. Parents' child-feeding practices can help children develop healthy eating habits later in life. [14]

> Take a positive and inclusive approach to food and eating when speaking with parents about food. Use neutral, non-judgmental language. For example, avoid dividing food into "healthy" and "unhealthy" categories and avoid using terms such as "junk food" or labelling foods as good or bad.

Responsive Feeding

- In responsive, cue-based feeding, parents recognize and respect children's hunger and fullness cues and respond in developmentally appropriate ways.[24,25] Responsive feeding begins at the initiation of breastfeeding and continues throughout childhood. It reflects a balance between feeding and encouraging self-feeding using age-appropriate and culturally appropriate eating utensils.[5]
- Responsive feeding is enacted through the application of the Satter Division of Responsibility in Feeding. For more information, see below.
- Responsive feeding is associated with healthy eating habits[26–30], self-regulation of food intake[26,27,30], lower rates of malnutrition and more stable growth trajectory across the lifespan.[26,29–31]
- Teach parents how to recognize hunger and fullness cues as recognizing hunger/fullness cues are key to parents' adoption of responsive feeding.[32] Inform parents that pressuring infants and children to eat through prodding, scolding, punishment, pleading, bribing, praising, or coercing (e.g. "clean your plate")[14] or using excessive verbal encouragement (e.g. "come on, you've tried it before") may lead to negative attitudes about eating, poor eating habits[5] and adolescent disordered eating behaviours.[33]

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- Non-responsive feeding is characterized by a lack of reciprocity between the parent and the child.[34] It includes bribing, coaxing, forcing, rewarding the child to eat, using food as a reward or withholding food as punishment or out of concerns the child is overeating. Non-responsive feeding patterns are associated with picky eating behaviour[27,35], emotional eating[27,35], growth faltering[25] and weight acceleration.[25]
- Parents' perceptions about a child's poor eating (food refusal, 'picky eating') or concerns about growth can be associated with non-responsive feeding.[32,34,36,37]

Feeding Relationship/Division of Responsibility

Ellyn Satter has taken the principles of responsive feeding and implemented them in a model called the Satter Division of Responsibility in Feeding (sDOR).[13]

- The sDOR has been adopted in BC as the model to operationalize responsive feeding. Following the sDOR:

  Birth to 6 months:
  - The parent is responsible for *what* to offer (i.e. human milk or appropriate substitute).
  - The parent feeds their child on cue.
  - The child decides *when* and *how much* they are fed. The parent trusts the child's ability to decide this.

  6 months to 12 months:
  - The parent continues to offer human milk or infant formula on cue.
  - The parent is responsible for *what* foods to offer, and is becoming responsible for *when* and *where* the child is fed.
  - The child decides *how much* and *whether* to eat the foods offered. The parent trusts the child's ability to decide this.

  After 12 months:
  - The parent continues to offer human milk as long as desired.
  - The parent is responsible for *what* foods to offer, and *when* and *where* the child is fed by providing regular meals and snacks.
  - The child decides *how much* and *whether* to eat the foods offered. The parent trusts the child's ability to decide this.

Encourage parents to follow the Satter Division of Responsibility in Feeding, regardless of child's growth.

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Children have the ability to self-regulate the amount of food and energy they consume.[14,35] Children will compensate for eating less on some days or meals by eating more on other days or meals. Parents interfere with this regulatory ability when they try to get children to eat certain types or amounts of food.[36] Following the Satter Division of Responsibility in Feeding also supports children to "grow predictably in the way that is right for them".[38]

Baby-Led Weaning

Baby-Led Weaning (BLW) is an approach to introduce solid foods where children are allowed to self-feed as much as they desire, offering soft finger-foods or foods that come naturally in puree/mashed form.[39]

BLW's design is aligned with responsive feeding. It recommends that mealtimes be shared, baby be trusted to respond to the appetite signals from their body, and baby chooses what and how much to eat from what is offered without pressure to eat.[40]

It has been theorized that following BLW will promote positive eating behaviours, and promote oral motor skills. In contrast, there are concerns that BLW may be associated with increased risk of choking, growth faltering, and inadequate intake of nutrients such as iron, zinc, vitamin D, and vitamin B12. The evidence is not conclusive regarding either the proposed benefits[26,41,42] or concerns.[26,41]

- There is no recommendation on the BLW approach in federal infant feeding recommendations.
- If parents self-identify as using BLW, ask them how they apply it in practice, as it is not well known.[26,41,42]
- If parents express interest in following a BLW approach, discuss how to do so by offering foods that provide adequate energy and nutrients, as well as how to prepare foods and offer textures that match baby's development and minimize risks noted above related to BLW. Discuss how offering a variety of foods such as puree, mashed, minced and finger foods can align with a BLW approach.

Offering Food

- Recommend that parents offer children small portions of foods at meals or snacks, along with the opportunity to ask for more.[5,14]
- It is common for children 2 to 5 years of age to refuse new foods 10 to 15 times[17] (or more) before they will eat it. Reassure parents that this behaviour is normal, as is touching, playing with and licking foods. Encourage parents to keep presenting these foods and eating these foods with

the child; and wait for the child to try it on their own.[14]

- Restricting higher-fat foods due to concern about overeating, or pressuring children to eat in a certain way may adversely affect self-regulation and lead to over-consumption or under-consumption.[6,42] Advise that these foods may be included as part of regular meals and sit down snacks, and parents can trust that their child will self-regulate. When doing this, they help their child feel relaxed and matter-of-fact about all kinds of foods.
- Aside from human milk, offer plain water only between meal and snack times. For children 1 year and older, drinking an excessive amount of fluids between meals and snacks may lead to eating less at mealtimes[5,14], tooth decay[5], and iron deficiency anemia.[16]

Resources for Parents

First Nations Health Authority

A Guide to Your Baby's First Foods
Growing up healthy

HealthLinkBC

Baby's First Foods
Feeding Your Baby: Sample Meals for Babies 6 to 12 Months of Age
Finger Foods for Babies 6 - 12 Months
Healthy Eating Guidelines for Your Vegetarian Baby: 6-12 months
Healthy Eating Guidelines for Your Vegetarian Toddler: 1-3 years
Helping Your 1 to 3 Year Old Child Eat Well | HealthLink BC
Meal and Snack Ideas for Your 1 to 3 Year-Old Child
Recipes for Your Baby 6 - 9 Months
Recipes for Your Baby 9 - 12 Months Old
Toddler's First Steps

Eating Together

- Eating with available adults provides children with a pleasurable, social experience and the opportunity to develop healthy eating habits and learn new skills through positive role modeling.[5,44]
- Children are more likely to try and enjoy a variety of foods when they are offered the same foods the rest of the family is eating.[5,14]
- Eating with an adult is associated with improved diet quality, healthy eating habits and mental wellbeing.[43]
- Provide the following recommendations to parents:
  - Minimize distractions such as toys, books and/or screens during mealtimes.[14,44]

- Provide children with opportunities and support for mastering self-feeding skills with the parent's understanding that messy eating is part of the learning process.[5]
- Keep mealtimes enjoyable.[5,14] Include children in family conversations. Avoid comments on what or how much the child is eating.[14]
- Toddlers and preschoolers may be finished eating and ready to leave the table after a short time. When mealtime is over, remove the food.[14]

Resources for parents

BC Dairy Association

Better Together

Ellyn Satter Institute

Mastering Meals Step by Step

HealthLinkBC

The Benefits of Eating Together for Children and Families

Kelty Mental Health

Families That Eat Together, Eat Better

Safe Feeding Practices to Reduce Risk of Choking

- Children younger than 4 years of age are at higher risk of choking. Parents can reduce the risk of choking by: being aware of child's ability to chew and swallow, supervising eating, and knowing how to respond if choking occurs.[5]
- Gagging is a natural reflex that helps older infants to avoid choking. Occasionally food sticks to or falls over the back of the tongue before the swallow is triggered, resulting in the protective action of a gag or cough.[5]
- Starting at about 6 months, offer soft, cut-up family foods to reduce the risk of choking. This can be pieces of cooked vegetables; ripe fruit such as banana or pear; finely minced, shredded, ground or mashed cooked meat, deboned fish and poultry; grated cheese and bread crusts or toast.
- Some food shapes and textures should not be offered to children younger than 4 years, including foods that are round and hard, sticky, or difficult to swallow. Examples include hard candies or cough drops, gum, dried fruit, popcorn, marshmallows, whole nuts (including peanuts), seeds, olives with pits, whole cherry tomatoes or grapes, fish with bones and snacks on toothpicks or skewers.[45]
- Foods with firmer textures can be offered when prepared in the following ways: grated or finely chopped raw vegetables or hard fruits such as carrots and apples; pits

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and skins removed from fruits; grapes chopped or cut lengthwise; nut butters thinly spread on crackers or toast; hot dogs or sausages diced or cut lengthwise; and finely chopped fibrous or stringy textured foods such as celery, pineapple or oranges.[5,45]
- Families struggling with progressing the texture of food and/or the child often gagging or choking should discuss this with their physician or could be referred on for possible swallowing studies.

Resources for Parents

BC Government

Toddler's First Steps (See Reducing Choking Hazards section)

HealthLinkBC

Prevent Choking in Babies and Young Children: For Child Care Providers

Childhood Tooth Decay Prevention

Early childhood tooth decay is the most common and preventable childhood chronic disease in Canada[46] that can lead to serious infection, eating difficulties, and other dental and social problems.[46,47] Treatment of dental caries is the leading cause of day surgery using a general anesthetic for children age 1–5 years.[48, 49]

When sugar remains long enough on the teeth, cavity-causing bacteria or germs can use this as a food source and create acid as a by-product and damage tooth structure. Over time, this can result in tooth decay.[50] The following feeding practices may contribute to early childhood tooth decay:

- Prolonged bottle-feeding with formula, milk or sweetened liquids (especially at sleep times) [46,51]
- Excessive juice/sugary drink consumption[46]
- Frequent sipping of liquids other than water[46] (e.g. milk, juice, or formula)
- Frequent snacking[46,51,52] (especially sticky or sugary foods, including dried fruit and fruit bars)

To reduce the risk of tooth decay, parents can:

- Practice good oral hygiene as part of a daily routine (e.g. wiping baby's gums with a damp cloth before teeth appear, brushing child's teeth twice daily with fluoride toothpaste) to keep teeth and gums healthy.
- Use fluoride toothpaste (a rice-grain amount under age 3 years and a pea-size amount age 3 years and up).
- Introduce an open cup, starting at six months.
- Offer water anytime for thirst starting with sips at 6

months. For infants less than 12 months old, ensure water doesn't displace human milk or formula.
- Offer milk in an open cup with meals.
- For children 1 year and older, offer a regular schedule of 3 meals plus 2-3 snacks every day.
- Aim to move away from bottle or sippy cup use starting at 12 months and complete transition by 18 months to help reduce the frequency of exposure of the teeth to sugar-containing liquids.
- Avoid sugary drinks, including 100% fruit juice. If juice is given, limit to no more than 125 ml (1/2 cup) per day in an open cup and offer only as part of a meal or snack to limit damage to the teeth.

Toddlers should be seen by a dental professional by age 1 year, or within 6 months of their first tooth coming in.

Dental Health Programs

BC Government

Healthy Kids Program

Healthy Kids Program Brochure

First Nations Health Authority

Children's Oral Health Initiative

Resources for Parents

BC Dental Association

Your Dental Health: Babies and Toddlers

Canadian Dental Association

Dental Care for Children

HealthLinkBC

Dental Care for Your Infant and Toddler

Food Allergy Prevention

The information provided below is intended for infants and toddlers who are considered at increased risk for developing food allergies.

- Infants with either a personal history of atopy and/or a first-degree relative (at least one parent or sibling) with atopy (such as atopic dermatitis, food allergy, asthma or allergic rhinoconjunctivitis) are considered at increased risk for developing food allergies.[4,53,54]
- The common food allergens include cow milk, egg, peanut, tree nuts, soy, wheat, sesame and seafood (fish - e.g. trout, salmon; crustaceans - e.g. lobster, shrimp; molluscs - e.g. scallops, clams).

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- The introduction of common food allergens should not be delayed as this can increase the risk of developing a food allergy.[6,7] These foods may be introduced when the infant is showing signs of readiness for other solid foods.[3,5–7] The evidence supporting early introduction (at around 6 months of age but not before 4 months of age) is strongest for peanut and egg.[6,7,55,56]
- Prioritize introducing foods that are eaten at home and part of the family diet.
- The common food allergens should be introduced to the child's diet one at time to help to clarify tolerance to individual foods.[3] Once a common food allergen has been introduced and is tolerated, it should be offered regularly (at least 2-3 times per week) to promote tolerance.
- Continue to encourage breastfeeding after introduction of cow milk as long as parent and child want to.
- While Health Canada recommends waiting 2 days between each common food allergen[3], there is no evidence to support lengthy delays between foods[6,7], so new food allergens can be introduced at each meal or 3 to 4 hours apart. This delay allows enough time to gauge a child's reaction to an individual food as symptoms of an allergic reaction to a food typically happen within 2 hours after eating the food. To learn about how you can support families in the safe introduction of common food allergens, take the free UBC CPD online course: Preventing Food Allergies in Infants: Early Introduction to Allergenic Solids.
- If a parent is concerned a food has caused an allergic reaction, advise them to stop offering the food and guide them to speak to their child's physician or nurse practitioner for a diagnosis or guidance.
- Parents should be reassured they may continue to introduce other new foods, including the other common food allergens, if they suspect the child may have an allergy to a food and while waiting to speak with their health care provider.
- Refer parents with questions or concerns about introducing solid foods, including the common food allergens, to a registered dietitian or advise to call Dietitian Services at HealthLink BC to speak with a registered dietitian.

Resources for Health Professionals

UBC Continuing Professional Development

Online Course: Preventing Food Allergies in Infants: Early Introduction to Allergenic Solids

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Resources for Parents

HealthLinkBC

Eczema and Food Allergy in Babies and Young Children
Reducing Risk of Food Allergy in Your Baby
Severe Allergic Reactions to Food: Children and Teens

Food Safety

To prevent food-borne illness, advise to avoid until child is 5 years old:

- Honey, including pasteurized or cooked honey, until 1 year of age[5,57]
- Raw or undercooked eggs or products containing raw/ undercooked eggs[5,57]
- Raw or undercooked fish and shellfish[5,57]
- Raw or undercooked meat, deli meats and hot dogs[5,57]
- Raw or lightly cooked sprouts[57]
- Unpasteurized cow/ goat milk and milk products including unpasteurized soft and semi-soft cheeses (feta, Brie, Camembert, blue-veined)[5,57,58]
- Unpasteurized fruit juice (if offered) or cider[5,10,59]

Resources for Parents

Health Canada

Food safety information for children ages 5 and under

Sugar Substitutes

Sugar substitutes are food additives that include artificial sweeteners and intense sweeteners from natural sources (ie. Stevia extract).[60] Food and beverages containing sugar substitutes are typically not nutrient dense and should not be offered to young children as they need nutritious, energy-dense foods for their rapid growth.[5] Low/zero calorie, sugar-free, "diet", or "keto" labelled foods and beverages typically contain sugar substitutes. Examples include flavoured yogurts, breakfast cereals, protein bars, salad dressings, baked goods, candies, diet soft drinks, and low/zero-calorie fruit drinks, sports drinks, or flavoured water.

Sugar substitutes are not recommended for children under two years of age. The following sugar substitutes are safe in **limited** amounts for children over two years of age:[61]

- acesulfame potassium;
- aspartame;
- neotame;
- sucralose;
- sugar alcohols (e.g., sorbitol, maltitol, mannitol, xylitol, erythritol);
- steviol glycosides; and
- thaumatin.

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Children with phenylketonuria (PKU) should not consume aspartame as it contains phenylalanine.[62]

Some sugar substitutes can cause side effects such as diarrhea, gas and bloating. While limited amounts of sugar substitutes are considered safe for children over two years of age, the research in this area is limited. If a child regularly consumes foods or beverages containing sugar substitutes, discuss with the parent about whether these products are safe.

Caffeine

Caffeine is found naturally in certain foods or used as a food additive. It is a stimulant that can increase heart rate and alertness, making it hard for children to sleep and focus their attention. Caffeine can also cause stomachaches, headaches, irritability, and nervousness. Caffeine can be found in many types of soft drinks, coffee, tea, chocolate and foods made with chocolate, and energy drinks. Other ingredients such as guarana and yerba mate also contain caffeine.

Caffeine is not recommended for children under 4 years of age. For children 4-6 years, caffeine should be limited to 2.5 mg/kg/day (about 45 mg/day).[63]

Resources for Parents

Health Canada

Caffeine in Food

Energy Drinks

Energy drinks and energy shots are beverages marketed to increase energy and alertness. They contain caffeine, and commonly have ingredients such as B vitamins, taurine, and guarana. They are generally carbonated, found near other beverages at the store, and may be confused with sports drinks or soft drinks.

Energy drinks usually have more caffeine than is recommended for children up to 18 years old. In Canada, the maximum amount of caffeine allowed in energy drinks is 180mg/serving or 400mg/L.[64] However, other countries have different regulations and some energy drinks in the USA have products up to 1mg caffeine per mL.[65] Caffeine should be limited to 2.5 mg/kg/day.[63]

Energy drinks are also often high in sugar or sugar substitutes.

Children may experience increased blood pressure[66],

irregular heart rate[66], and nervousness[63,66] from consuming energy drinks. More serious adverse effects can include vomiting, diarrhea, delusions, or circulatory collapse.[66] Energy drinks are not recommended for children due to the high amounts of caffeine and other ingredients.[64]

Resources for Parents

HealthLinkBC

Caffeinated Energy Drinks

Fish Consumption and Methylmercury

- Fatty fish (e.g. salmon, trout) is a good source of the omega-3 fats EPA (eicosapentaenoic acid) and DHA (docosahexaenoic acid). While the optimal amount of EPA and DHA for infants and young children has not been determined, encourage families to offer fish twice per week, as a good food source, by 24 months of age.[5]
- Certain types of fish should be limited because of the risk of overexposure to mercury. Limit consumption of the following – fresh/ frozen tuna, shark, swordfish, escolar, marlin, orange roughy, and canned albacore (white) tuna.

Note: Canned albacore tuna (labeled with 'Product of Canada') has no serving limits.

Resources for Parents

HealthLinkBC

Mercury in Fish (Check for recommended frequency and amount)

Iron

Iron deficiency is one of the most common nutrient deficiencies in early childhood; prolonged/severe anemia can irreversibly affect cognitive development.[67,68] Infants and toddlers are particularly vulnerable to iron deficiency as their needs increase during this period of rapid growth, especially if they have low iron stores at birth.[69]

- Common causes and risk factors for iron deficiency and iron deficiency anemia in infants and children include:[70]
  - **All ages:** increased requirements due to growth, low socio-economic status, lack of balanced diet (including ethnic groups with low iron high fibre/ phytates diet e.g., Asians), celiac disease, bleeding from any source, e.g., frequent nosebleeds, GI diseases including short gut syndrome, cow milk protein colitis.
  - **Infants less than 6 months:** born to parent with iron deficiency, born prematurely or at low birth weight (<2500g), fed inappropriate milk substitutes other

than human milk or commercial infant formula, history of fetal-maternal hemorrhage, history of twin-twin transfusion
  - **Toddlers (6 month to 36 months)**: born prematurely, exclusive breastfeeding beyond 6 months, cow milk before 9 months, excessive cow milk >750 mL/day, prolonged bottle feeding beyond 12–15 months, and a low dietary intake of iron-rich solid foods.
- Screening for iron deficiency anemia should be considered between 6 and 18 months of age for infants/children from high risk groups.[2,69] Beyond this age, screen for anemia as per additional risk factors.
- Iron deficiency cannot be diagnosed without a blood test, but physical signs[70] such as pallor, poor appetite, irritability/ behavior challenges, sleepiness and slowed growth and development are possible later signs of iron deficiency.[5]
- The risk of iron deficiency in the first 2 years of life can be reduced with daily consumption of iron-rich foods such as meat, eggs, legumes and iron-fortified cereals[69] and preventing overconsumption of animal milk.
- Heme iron (animal source) is better absorbed than non-heme iron. Overall, iron absorption is greater when heme and non-heme sources are eaten together. Daily consumption of foods rich in vitamin C, such as vegetables and fruit, can also help enhance absorption of iron from non-heme sources.[5]
- Example food sources include:
  - Heme iron – meat, wild game, chicken, turkey, pork, fish, shellfish.
  - Non-heme iron – beans, lentils, chickpeas, tofu, eggs, fortified grains, peanut, tree nuts and seed butters.

Resources for Parents

HealthLinkBC

Baby's First Foods

Healthy Eating Guidelines For Your Vegetarian Baby: 6-12 months

Helping Your 1 to 3 Year Old Child Eat Well

Iron-Fortified Infant Cereal Recipes: Finger Foods For Babies and Toddlers

Iron in Foods

Iron and Your Health

Resources for Health Professionals

Government of BC

Iron Deficiency - Diagnosis and Management BC Guidelines

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Vitamin D

- Parent and child limited sunlight exposure and not consuming adequate dietary sources of vitamin D both contribute to risk of vitamin D deficiency in the child.[71]
- Recommend a daily 400 IU (10 mcg) liquid vitamin D supplement for all infants or children younger than 2 years who are breastfed or fed some human milk until diet includes ≥400 IU per day of vitamin D from dietary sources.[3,5]
- Children under 12 months that are fed only infant formula do not need a vitamin D supplement.
- For children 12-24 months no longer receiving human milk, recommend a daily 400 IU (10 mcg) liquid vitamin D supplement if intake of cow milk (or fortified goat milk) and other vitamin D rich foods is not sufficient to meet vitamin D needs (600 IU or 15 mcg).
- For children 2 years and older, recommend offering foods that contain vitamin D daily.[72]
  - Recommend 500 mL (2 cups) of cow milk.[5]
  - Recommend a daily vitamin D supplement of 400 IU (10mcg) if intake of vitamin D rich foods is not sufficient to meet vitamin D needs (600 IU or 15 mcg).
- Due to the high level of vitamin D deficiency and insufficiency found in First Nations and Inuit populations, special attention needs to be focused on these groups.[73]

Food sources of Vitamin D are limited and include:[74]

Food	Serving size	Amount of Vitamin D
Fortified infant formula	250 mL (8 oz)	100 IU (2.5 mcg)
Cow milk	250 mL (8 oz)	100 IU (2.5 mcg)
Salmon	30 g (1 oz)	82-257 IU (2-6.5 mcg)
Egg yolk	One yolk	32 IU (0.8mcg)
Fortified margarine	5 mL (1 tsp)	35 IU (0.8 mcg)
Vitamin D fortified yogurt	125 mL (4 oz)	37-60 IU (0.9-1.5 mcg)

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- All cow milk **must** be fortified with vitamin D. Mandatory fortification of cow milk is 2.3 mcg (approx. 100 IU) of vitamin D per 250 mL.
- Goat milk and plant based beverages (e.g. soy beverages) **may** be fortified with vitamin D.[75,76]
- Health Canada recognizes that it is challenging to consume the recommended amounts of vitamin D through the current food supply and has been working to expand vitamin D fortification of foods.
  - As a first step, in December 2021, a marketing authorization came into force to permit increased vitamin D levels in cow milk, goat milk and margarine. Starting January 2022, dairy processors may choose to fortify their milk at the new voluntary level of 5 mcg (200 IU) per 250 mL (1 cup).[77] Eventually, the new vitamin D level fortification will become mandatory for cow milk and margarine.
  - As a next step, Health Canada plans to increase vitamin D levels of fortified plant-based beverages and permit the vitamin D fortification of yogurt.
- Changes to the Nutrition Facts Table will come into effect on December 15, 2022. They will include an increase in the Daily Value (DV) for Vitamin D from 5 mcg to 20 mcg (800 IU).
- The amount of vitamin D provided will be noted in absolute value in mcg next to the % DV on the Nutrition Facts Table.

Resources for Health Professionals

BC Government and Provincial Health Services Authority

Vitamin D Recommendations for Perinatal Women & Healthy Term Infants (Birth - 1 year)

Resources for Parents

HealthLinkBC

Vitamin D and Your Health

Commercial Infant Formula

- All parents, babies and families, regardless of feeding method, benefit from Baby-Friendly Initiative practices: these include responsive, cue-based feeding, skin-to-skin contact and family-centred care.[1]
- For parents who have made the decision to use commercial infant formula for medical, personal, or social reasons, whether as a sole source of nutrition or as a supplement to human milk:
  - Provide non-judgmental and supportive care.
  - Support them to select a commercial infant formula based on the infant's medical and family's cultural/

religious needs (e.g. vegan).[3,5]
  - Provide information on safe preparation, handling, storage and feeding of commercial infant formula on an individual basis and not in a group setting.[1]
- Formula-fed infants who may be at higher risk for iron deficiency should receive formula with a higher iron content (1.3 mg/100 mL of iron).[69]
- It is important to prepare powdered infant formula as directed on the package. Over-diluted or over-concentrated formula will provide inappropriate nutritional content and may lead to health risks.
- Not all Canadians have access to safe drinking water. Discuss alternative feeding options if safe drinking water is inaccessible.
- There is no established superiority for commercial follow-up (marketed as "Step 2") formulas for toddlers 6-12 months of age.[5]
- For most toddlers, there is no indication for the use of commercial infant formulas beyond 12 months.
- For toddlers age 12-24 months no longer receiving human milk and not introduced to whole cow or fortified goat milk (e.g. vegan diet or for cultural, religious, or health reasons such as galactosemia), a soy formula is recommended until age 2.[5] As soy infant formula contains less calcium than cow milk (~ ½ the amount), other sources of calcium should be offered daily when soy infant formula is main milk source.[78]
- Homemade infant formula is not a safe alternative to commercial infant formula as it can cause severe malnutrition, harm to kidneys, and electrolyte imbalance. It can also cause serious illness when prepared in a manner that can result in contamination by harmful bacteria.[79]

Resources for Health Professionals

Government of BC

Drinking Water Quality: Health Authority Contacts

Perinatal Services BC

Infant Formula Resource

Resources for Parents

HealthLinkBC

Feeding Your Baby Formula: Safely Making and Storing Formula

Perinatal Services BC

Infant Formula: What you Need to Know

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Growth Monitoring

- It is important for health professionals to consider how growth is discussed with parents to avoid causing worry and anxiety, inappropriate changes to feeding that undermine healthy, responsive feeding relationships and avoid stigmatizing children. Training on routine growth monitoring is recommended to ensure appropriate interpretation.
- Many parents place a great deal of importance on heights and weights and inappropriately assume that they are an important reflection of a child's overall health or quality of parenting, like a report card, often assuming that larger babies are healthier. Health professionals should reassure parents, especially first-time parents, that small babies or those who experience fluctuations in growth are no less healthy than large babies and that there are many other ways to assess whether babies and toddlers are healthy and developing normally.
- Serial measures are more useful than one-time measures and are ideal for assessing and monitoring growth patterns because infants and young children grow in bursts and pauses.[9] The smooth lines of growth charts are population averages – they do not reflect normal growth for individual children. If a child is otherwise well, it is OK to reassure parents when there are fluctuations and do follow-up measurements at a later visit.
- All measures of growth should be assessed on an individual basis incorporating other factors to assist in interpretation of the child's growth.
- Weight-for-length (0-2 years) and BMI-for-age (2-5 years and 5-19 years) should be the main metrics used because they tell us whether growth is **proportional**, which is more important than measurements based on age.
- Assessing growth involves looking at the overall trajectory of weight-for-age, length/height-for-age, and weight-for-length (under two years) or BMI-for-age (over 2 years) to determine whether a child is tracking roughly along the growth curves or is crossing centiles downwards or upwards.
- It may be normal for some children to cross both weight-for-age and length-for-age/ height-for-age up to 2 major percentiles lines within the first 2 - 3 years of age. (9) During the first year, infants are transitioning from their size at birth (determined by the intrauterine environment) to their genetically determined future size and so many will show a significant shift. It is important to take into consideration the parents' size by calculating "mid-parental height" if you are worried about a child's growth.
- Growth measurements indicating a sharp incline or decline

in serial growth measures, or a growth line that remains flat, may indicate growth issues or incorrect measurements – always double check if there is a significant change.
- Cut-off criteria are intended to provide guidance for further assessment, referral or intervention. They should not be used as diagnostic criteria.
- For key steps to take when assessing growth of children 0-19 years and key messages for discussions on growth patterns, refer to WHO Growth Chart Assessment and Counselling – Key Messages and Actions.
- Use the WHO Growth Charts for Canada when assessing growth.[9]
  - Choice of growth chart set (Set 1 or Set 2) is based on practitioner preference and/or organization/facility policy.[9]

Resources for Health Professionals

Dietitians of Canada

WHO Growth Chart Assessment and Counselling – Key Messages and Actions

WHO (World Health Organization) Growth Charts for Canada

Set 1

Set 2

Breastfeeding and Formula Feeding in Emergencies

The ability of parents to feed infants and young children during emergencies can be impacted by displacement, lack of supports, access to adequate and safe formula, access to appropriate feeding supplies, the infectious disease environment, and lack of access to clean water and proper sanitation.[80] Emergency preparedness can reduce risks to infant, child, and maternal health during such events and allow for timely and appropriate responses to occur.[80]

Protecting, promoting and supporting breastfeeding is an important component of emergency preparedness for babies and young children. Through nursing, parents provide their children with a safe and reliable food source.

- Encourage and promote early initiation of exclusive breastfeeding for infants less than 6 months old and continued breastfeeding in children until 2 years and beyond, to reduce the risk of food insecurity during times of emergency.[80]
- In emergency planning, consider the unique nutritional needs of families with young children and tailor supports to the needs of individual families.

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- Consider parents' mental, emotional, and physical well-being during emergencies.
- Families need urgent identification and targeted skilled feeding support as infant health and nutrition status can quickly deteriorate in emergency situations.

Families who breastfeed their babies and young children:

- The stress of emergencies can affect breastfeeding. Parents that nurse their babies may need extra breastfeeding support.
  - Giving infant formula to families who breastfeed can undermine breastfeeding success, making these children even more vulnerable in times of crisis.
  - Prioritize and support linkages to breastfeeding support persons, either locally or virtually during a disaster or an emergency.

Families who provide their babies and young children with expressed human milk need:

- various resources to express and store human milk: private spaces, breast pumps, electrical outlets, refrigerators, bottles.
- equipment to safely heat bottles of expressed human milk.
- access to safe water and equipment to clean and sterilize feeding equipment.

Families who feed their babies with formula need:

- access to safe water and equipment to safely prepare formula and to clean and sterilize feeding equipment.
- a reliable supply of infant formula, and ideally ready to feed formula - this may be their babies' only food source. Some infants require specialized infant formula.

Prioritize and connect families to support persons who can help with their infant feeding needs, either locally or virtually.

- When access to clean water or proper sanitation are compromised, re-usable feeding supplies, such as breast pumps or feeding bottles, should only be used if they can be adequately sanitized.[80] Encourage alternatives such as hand expressing human milk or using open cups rather than bottles if safety and sanitations are concerns.[80]
- If baby is developmentally ready for solids, complementary feeding can help meet immediate needs required to fill nutrient gaps in emergencies.[62] Ensure access to adequate amounts of appropriate and safe complementary foods.
- Resources include:
  - Local programs and services, which may include health units/centres, pregnancy outreach programs, breast pump loan or rental programs, parenting programs,

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Child Care Resource and Referral centres
- Get help: La Leche League Canada
- HealthLinkBC: Call 8-1-1 at any time of day

Resources for Health Professionals

Emergency Nutrition Network

Operational Guidance on Breastfeeding Counselling in Emergencies

Infant Feeding in Disasters and Emergencies Disaster Fact Sheet

Safely Fed

COVID-19 Resources

Additional Resources

Recommended Organizations

Canadian Pediatric Society

Dietitians of Canada

Ellyn Satter Institute

HealthLinkBC

- Use the Provincial Nutrition Resource Inventory to easily locate evidence-informed healthy eating and nutrition resources that are widely used across BC

La Leche League Canada

Dietitians Referral Resources

- Dietitian Services and Pediatric Nutrition Service at HealthLinkBC. Registered dietitians at HealthLinkBC offer telephone, email and web-based based services to help meet the food and nutrition information, education and counselling needs of BC residents and health professionals. This service is free of charge for all British Columbians.

  Telephone: Call 8-1-1 (or 7-1-1 for the hearing impaired) and ask to speak to a registered dietitian. Translation services are available in over 160 languages.
  Email: Click on Email a HealthLinkBC Dietitian to ask general food or nutrition questions.
  Web: Visit HealthLinkBC for resources on healthy eating for preventing or managing health conditions.

- **Outpatient dietitians at your local hospital or health unit**
- **Private practice dietitians: Dietitians of Canada** Find-A-Dietitian

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