Nutrition and Growth Assessment Manual For Healthy Term Infants And Children (NAMIC 2014)

Birth to 6 months

6 to 24 months

2 to 5 years

Developed by the Public Health Nutritionists of Saskatchewan Working Group in collaboration with the Ministry of Health

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Fourth Edition

Published by the Ministry of Health and the Public Health Nutritionists of Saskatchewan Working Group. 2014. Regina, Saskatchewan.

Acknowledgements

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Sincere thanks to the following for feedback and content contributions. The support of the following individuals and groups is gratefully acknowledged:

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The Early Childhood Nutrition Committee would also like to thank Heartland Health Region for support in drafting this 2014 edition.

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Introduction

NAMIC provides population based statements and is a nutrition assessment resource that supports **Child Health Clinic** guidelines and protocols used by public health nurses in Saskatchewan. NAMIC is also a professional resource to support other health service providers such as dietitians and nurse practitioners. Most families access services for children through public health for programs such as immunizations and baby visits putting the Public Health Nurse (PHN) in a strategic position to support parents in their efforts to achieve positive health outcomes for children. Many practitioners however, are positioned to help families in raising healthy children.

Establishing positive eating patterns during the first years of life has significant and long-term health benefits. Parents have a major influence on their child's learning and development in early childhood. It is therefore crucial that parents receive the support and guidance they need. The PHN plays a central role here. They provide services to families at post-natal and Child Health Clinic appointments. Key nutrition, feeding relationship and growth areas which should be addressed at certain critical ages and stages from birth to 5 years are clearly stated. Information the health practitioner gathers from the families will help identify the needs of the children and families served. The focus is to offer anticipatory guidance and reinforce healthy feeding practices. One may provide general counseling to parents whose children are identified at increased nutritional and/or growth risk and refer as necessary. The key context of NAMIC is healthy term infants so while NAMIC includes position statements and technical detail, it is not intended to diagnose medical conditions or replace clinical practitioners.

The expected standards for healthy growth and development of children stated in this manual are based on research evidence, literature and sources including Dietitians of Canada, Health Canada, Breastfeeding Committee for Canada, the Canadian Paediatric Society. This manual also promotes and supports the Baby Friendly™ Initiative.

To assist the health practitioner this manual includes:

1. Population standards for feeding relationship, growth & development and nutrition
2. Potential problems
3. Information to parents
4. References
5. List of professional resources

It may be helpful to consult with a Public Health Nutritionist and other team members. If specialized intervention is required, refer to the **GUIDE TO REFERRAL RESOURCES**. This guide offers direction for when and to whom to refer. Referrals will vary depending upon the regional resources available.

Objectives of this Assessment Support Manual

- to support parents in their need for information, skills, and motivation to exclusively breastfeed for the first six months and sustain continued breastfeeding to two years and beyond
- to support parents who have chosen to feed their infant with commercial infant formula and provide information about this method of feeding to allow for appropriate growth and development
- to promote and reinforce the division of responsibility and the responsive parenting style as related to feeding and the feeding relationship
- to reinforce healthy eating practices for infants, toddlers, and preschool children as part of a responsive feeding relationship
- to prevent, detect early and/or provide appropriate intervention for the following family and child concerns:
    - problems with breastfeeding management
    - premature weaning from the breast
    - breastmilk substitutes and commercial infant formula
    - inadequate or excessive energy intake
    - growth faltering
    - failure to thrive using physical assessment criteria
    - nutrient depletion, deficiency, or excess
    - iron deficiency anaemia
    - adverse food reactions
    - problem eating behaviors
    - poor quality feeding relationships
    - choking hazards
    - early childhood tooth decay
    - elimination problems
    - food-borne illness
    - food insecurity

Assessment Sections

Content

There are three age categories:

- 0 to 6 months
- 6 months to 24 months
- 2 years to 5 years

Within each age category the primary feeding method and/or significant nutritional concern are addressed:

- Breastfed
- Non-breastfed
- Complementary feeding

Three topics frame the information to address the primary feeding method:

- Feeding Relationship
- Growth and Development
- Nutrition

Integrating the Feeding Relationship, Growth and Development and Nutrition into each of the primary feeding methods, supports a holistic assessment. It also supports the guiding principles of providing services in the family health clinic setting:

- focuses on the needs of child and family
- builds on parent knowledge and skills to increase family capacity and self-reliance
- follows principles of primary and secondary prevention
- ensures referral and follow-up with the appropriate services

The information within each age group and primary feeding method are organized in the charts to include an **Expected Standard**, the *what ought to be* statement. **Potential Problems**, issues likely to occur if a standard is not met. These are specific problems to prevent or to detect early. **Information to Parents**, key concepts to assist and inform parents during anticipatory guidance, reinforcing healthy feeding practices and/or providing general nutrition counseling. The manual also includes references, resource links and a referral guide.

General Procedures

1. Ask appropriate questions to identify which expected standards are being met within each feeding method.
2. Any expected standard not met may lead to one or more potential problem, putting a child at increased nutritional risk.
3. The health practitioner might perceive additional support or intervention is needed and may:
    - provide anticipatory guidance and/or supportive counseling as appropriate
    - consult with a Public Health Nutritionist
    - consult with or refer to a Lactation Consultant
    - consult with or refer to the Family Physician, Registered Dietitian, Dental Health, Speech Language Pathology, Public Health Inspector, etc.
4. For further assessment and/or management, diagnosis, or specialized treatment, refer to one of the suggested professions listed in the **GUIDE TO REFERRAL RESOURCES**.
5. Complete client records, forms, and tallies as per regional procedures.

Guide To Referral

This section is offered as a guide and may be useful if specialized intervention becomes necessary. Resources available for referral will vary among health regions. As much as possible, and when not contraindicated, population standards recommend that breastfeeding is maintained while feeding challenges are addressed.

Issues related to infant mother couple (or caregiver) are only examples of possible health concerns that may arise. These are among the most common referrals assessed by public health for nutrition in otherwise healthy term infants but by no means the only concerns. It is not inclusive. It is not intended to diagnose or to serve as medical advice – refer to the physician or paediatric dietitian.

Guide to Referral Resources

Issues as related to infant, mother or caregiver	Public Health Nurse	Lactation Consultant	Family Physician	Dietitian Clinical or Paediatric or Community	Nurse Practitioner	Dental Health Coordinator	Public Health Inspector	Early Childhood Psychologist	Speech Language Pathologist	Other: Social Worker OT/PT
Adverse food reactions			X	X						
Anaemia e.g. iron deficiency			X	X						
Breastfeeding	X	X	X		X					
Behavior problems Parenting issues	X							X		
Developmental delays			X					X	X	X
Oral health (dental)						X				
Elimination problems Diarrhea or Constipation	X		X	X	X					
Growth pattern outside expected			X	X						
Failure to Thrive			X					X		X
Food insecurity	X			X						X
Medical issues			X							
Mental health issues	X		X		X					X
Nutrient inadequacies related to: • Folic acid • Vitamin B12 (for vegans) • Vitamin A • Vitamin C • Vitamin D			X	X	X					
Relactation	X	X								
Safety issues – food and water							X			
Vegan Mothers			X	X						

Public Health Nutritionists can be a support and are available for consultation regarding referral

Operational Definitions

ADVERSE FOOD REACTIONS: An umbrella term to describe several mechanisms that are responsible for reactions to food. These reactions can be further categorized as:

a. FOOD ALLERY – An immunologically mediated hypersensitivity reaction to any food. (An abnormal response to a food or food component by the body's immune system). Reactions are mediated by immunoglobulin E (IgE) antibodies and/or non-IgE-mediated mechanisms.

IgE-mediated immune responses are the most widely recognized mechanism of food hypersensitivity. The reaction is produced when IgE antibodies initiate the release of numerous mediators including histamine and prostaglandins. The reaction begins during, or soon after, exposure to the food. Atopic symptoms such as eczema and/or wheezing may present. If gastrointestinal symptoms occur they generally do so within 2 hours (vomiting, cramps, and acute diarrhea). IgE-mediated allergies can produce life-threatening reaction called anaphylaxis. Growth retardation occurs only in severe cases. Skin-testing may be helpful. RAST testing for total and allergen specific IgE in the blood can be helpful.

Non-IgE-mediated reactions result from mechanisms that primarily affect the gastro-intestinal mucosa. Symptoms include blood in the stools, diarrhea, regurgitation, abdominal pain, failure to thrive. A very severe reaction occurs in only a minority of infants. In infancy, the most common non-IgE-mediated allergies are to proteins found in infant formula (cow's milk and soy protein). Non-IgE-meditated cow milk allergy often resolves itself between 6 and 18 months of age. The re-introduction to cow milk should be with a physician or dietitian. There is less understanding of non-IgE-mediated food allergies because the symptoms generally take several hours to evolve. This delay means it can be more difficult to make the clinical association between the offending food and the clinical symptoms. Skin-testing is not helpful.

b. FOOD INTOLERANCE – includes any adverse physiologic response to a food or food additive that is not immunologically mediated. It can be a result of any variety of mechanisms. Examples include enzyme deficiency (e.g. lactose intolerance), pharmacological factors (e.g. tyramine with migraine), contamination (e.g. bacterial food poisoning), or idiosyncrasy (e.g. dyes, preservatives).

ANAEMIA: A condition where not enough oxygen is available to body tissues. Below normal level of healthy red blood cells and/or haemoglobin due to one or more problems in haemoglobin synthesis and/or red blood cell (RBC) production, maturation and/or death. Hemoglobin is protein that gives the red color to the blood and carries oxygen on the RBC's from the lungs to body tissues. Anaemia has three main causes: blood loss, low or lack of RBC production, and high rates of RBC destruction.

Iron deficiency anaemia the most common form of anaemia. Red blood cells (RBC) are small (microcytic) and contain a subnormal amount of haemoglobin (iron rich protein). RBC may have poor colour (hypochromic). The cell count is also below normal, due

to the decreased production of haemoglobin. This anemia is most prevalent in infants, children and pregnant women.

Folate deficiency anaemia a type of anaemia due to lack of folate (also called folic acid). Folate is needed for RBC to form and grow. These bone marrow red blood cells become abnormally large (macrocytic). Such cells are called megalocytes or megaloblasts; this is why this anemia is also called megaloblastic anemia. Folate is particularly important for women of child bearing age (pre-conception/early pregnancy). Health Canada provides a supplement recommendation for healthy pregnancy to reduce the risk of neural tube defects. www.hc-sc.gc.ca/fn-an/nutrition/prenatal/index-eng.php

ANTICIPATORY GUIDANCE: By definition anticipatory guidance is a proactive developmentally based counseling technique that focuses on the child needs at each stage of life. Health practitioners provide counseling to clients before an event occurs. It includes discussing potential problems or risk with clients to increase awareness in order to help prevent a problem.

ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD): A condition that makes it difficult for a child to pay attention, sit still and exercise self-control. Children with ADHD are consistently inattentive, impulsive and/or hyperactive in ways inappropriate to their age and stage of development. The most common estimate of prevalence is that 4-8% of school aged children have ADHD. It is three times more common in males than in females.

Based on the published literature available, PEN indicates "it is not possible to state that dietary manipulation should be considered a primary routine management of ADHD but it may be useful as an adjunct therapy." PEN Key Practice Points do indicate evidence to show:

- ensuring adequate essential fatty acid levels in children with ADHD or ADHD-like symptoms may reduce behaviours associated with the disorder
- monitoring serum iron, zinc, and magnesium may indicate the need for supplementation of these nutrients
- in addition to mood and sleeping disorders, ADHD stimulant medications may cause nutrition-related side-effects including decreased appetite, weight loss and stomach pain. Non-stimulant medications can cause nausea, appetite suppression and weight loss

There is no evidence to show that sugar has a negative effect on the behaviour of children with ADHD. In children diagnosed with celiac disease, a gluten-free diet may improve the symptoms of ADHD. Numerous strategies are required to reduce the symptoms associated with ADHD and it is likely that no single nutrition intervention will lead to a complete resolution of symptoms. The most effective approach to the management of ADHD is through strategies that considers each child as an individual and treats them on the basis of their unique circumstances.

BABY-FRIENDLY™ INITIATIVE (BFI): A global program initiated in 1992 by the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) in response to the Innocenti Declaration (1990). The declaration was endorsed by CPS in 2012

(Canadian Pediatric Society). The program is intended to improve breastfeeding outcomes for mothers and babies by improving the quality of care. BFI is an accepted international standard by which hospitals, maternity facilities, and community health sites can evaluate policies and practices of breastfeeding. To support continuum of care and the need for collaboration, the Breastfeeding Committee for Canada developed the "BFI Integrated 10 Steps Practice Outcome Indicators for Hospitals and Community Health Services".

BIOLOGICAL NURTURING: Also termed *laid back nursing* is a maternal breastfeeding position where the mother is fully supported in a semi reclined position between 15 and 45 degrees. Infant is placed 'tummy ON mummy' – a position that works with gravity. This position has been shown to provide mother and baby with access to nursing reflexes that promote an infant to latch more readily. See video www.biologicalnurturing.com/video/bn3clip.html

BREASTFEEDING: Breastfeeding Committee for Saskatchewan www.thebcs.ca

Breastfeeding Committee for Canada http://breastfeedingcanada.ca

"The BCC definitions describe the breast milk intake of infants but do not specify how the infant has received the breast milk; nor do the definitions specify the types of other liquids or foods the infant may have received." BCC

Exclusive breastfeeding is when an infant receives breastmilk (including expressed milk and/or donor human milk) **from birth**. It allows the infant to receive oral rehydration solution (ORS), syrups (vitamins, minerals, medicines) but it does not allow an infant to receive anything else.

Infants are not exclusively breastfed if they receive any non-human milk, solids, water, sugar water, glucose water, water-based drinks, fruit juice, ritual fluids or any other liquid.

COLIC: For an infant, crying is one form of normal self-expression that is usually, but not always, associated with hunger, fatigue or discomfort. Colic in infants is defined as excessive crying in an otherwise healthy and thriving baby. A period of longer, stronger, and unexplained crying typically begins when infants are about 3 weeks old, peaks in intensity around 6-8 weeks and tends to decrease at the age of 4 to 5months, although it can last longer. Excessive crying is defined as crying that lasts at least 3 hours a day, for 3 days a week, for at least 3 weeks. New information suggests this period of intense crying is a normal part of a baby's development. Some babies cry much longer and more intensely than others (*purple crying*).

CONSTIPATION: is caused by stool spending too much time in the colon. The colon absorbs too much water from the stool, making it hard and dry. Hard, dry stool is more difficult for the muscles of the rectum to push out and stool is sometimes painful to pass. Infrequent bowel movements alone are not an indicator of constipation.

Constipation is common complaint in childhood but it is a **symptom** not a disease. Constipation may be considered organic (medical) or functional (idiopathic).

> ***Organic (medical) constipation*** includes anatomic, neuromuscular, metabolic, or endocrine causes. The most well-documented etiology for organic constipation in

infants is 'Hirschsprung's disease' (aganglionic megacolon). Another condition causing constipation is spina bifida. These types of constipation are less common.

Functional (idiopathic) Constipation describes children who present with constipation with no organic etiology. Functional constipation is more common and is most frequently a result of a child 'holding' stool in an effort to prevent a bowel movement. However, functional constipation can result from pain during stooling, fever, dehydration, changes in diet or fibre and fluid intake, psychological issues, toilet training, and medications.

Functional constipation is not well understood but literature suggests that it tends to occur during key periods:

- transition from breastfeeding to commercial infant formula
- introduction of solids foods
- toilet training and learning to control bowel movements
- using public bathrooms (school, shopping malls…)

DIARRHEA: Frequent passage of unformed bowel movements accompanied by large amounts of fluid loss. It is commonly caused by a viral, bacterial or parasitic infection. It may result from an adverse food reaction, medications, or functional (idiopathic) bowel disorders.

Acute is diarrhea that is usually mild and brief, *lasting less than one week*.

Chronic is an increase in stool frequency with increased water content for *more than 14 days*. This diarrhea is often caused by chronic conditions such as malabsorption syndromes, immune deficiency, food allergy, lactose intolerance, and inappropriate juice intake.

DIETITIAN, CLINICAL: A specialist in therapeutic and applied human nutrition. As a member of the clinical care team, dietitians (RD) assess nutritional status; develop, coordinate and implement nutrition care plans and evaluate the results. Clinical dietitians may be employed in hospitals, long term care facilities, community clinics, and home care. They may also be called Hospital or Outpatient Dietitians.

DIETITIAN, COMMUNITY: Provides consultative, counseling, teaching, and education services to individuals, community groups and health professionals. Community Dietitians provide nutrition counseling on an outpatient basis in health care centres and community clinics or in community settings. Referral can be made through a Family Physician or clients can call a Community Dietitian directly.

DONOR HUMAN MILK: Is breast milk that a mother collects through her own hand expression or pumping of her breast to supply and provide breast milk for use by an infant other than her own. Donor human milk must be considered and handled as a human body substance. All donors must undergo screening, similar to donating for blood, which includes an interview, serological screening, and physician consent. Serological screening includes testing for hepatitis Band C as well as HIV and human T cell leukemia virus. Donor human milk must be properly collected, stored, pasteurized and cultured in accordance with food

preparation guidelines set out by the Canadian Food Inspection Agency (CFIA). Written parental consent must be obtained before prescribing or administering the donor human milk.

EARLY CHILDHOOD TOOTH DECAY (ECTD): Tooth decay that affects the teeth of infants and young children.

At birth, an infant does not have decay causing germs in their mouth. These germs are passed to infants; for example, caregivers clean a pacifier with their mouth or use their spoon to feed an infant. Germs create acids as a byproduct from digesting the carbohydrates in food, usually when there is prolonged contact with formula, milk, juice or other carbohydrate-rich liquid when the infant's mouth has not been cleaned daily to reduce germs. These fluids are most commonly offered in bottles or Sippy cups. Propping the bottle to feed an infant increases the risk of ECTD (propped bottle syndrome). Repeated acid attacks break down teeth surfaces and cause decay.

Breastfed infants do not typically experience this type of early tooth decay. Breast milk itself is the healthiest food for babies' teeth as it tends to slow bacterial growth and acid production. The most recent data indicates that breastmilk is not an independent risk factor for early childhood caries.

FAILURE TO THRIVE (FTT): refers to children whose current stature, current weight or rate of weight gain is significantly lower than that of other children of similar age and gender. FTT is a term used to reflect relative under nutrition and inadequate growth in early childhood. It is important to determine whether FTT results from medical problems or social and/or environment factors. Medical causes are rare and a clear underlying medical condition is rarely identified. In most cases the cause is multifactorial and includes biologic, psychosocial and environmental contributors.

While failure to thrive (FTT) may be rare, weight faltering is not. *Weight faltering describes a pattern and is not a diagnosis*. Caution must be taken when comparing children; it is important to remember that the way children grow and develop varies. A child's rate of change in weight and height is more important than the actual growth measurements. The usual trend of growth, and all serial measures of growth, as well as the amount of deviation from the norm for a given child must be assessed together along with developmental factors. Slow weight gain or trending on the lower growth percentiles, is not necessarily a marker of ill health or undernutrition.

FEEDING:

> ***Feeding relationship:*** is the interaction(s) that take place between a parent and child as they engage in food selection, ingestion, and regulation of behaviors. The feeding relationship is characteristic of the overall parent-child relationship. Successful feeding requires a caretaker who trusts and depends on information coming from the child about timing, amount, preference, pace, and eating capability. An appropriate feeding relationship supports the child's developmental tasks and helps them develop positive attitudes as well as learn to distinguish feeding cues and respond appropriately. Feeding is successful when a parent responds to a child's rhythm and signals of hunger and satiety and develops the mechanics of feeding that are effective with a particular child's emotional makeup and feeding skills/limitations.

Division of responsibility: children develop eating competence step-by-step throughout the growing-up years when they are fed according to a stage-appropriate division of responsibility. At every stage, parents take leadership with feeding and let the child be self-directed with eating. Parents provide *structure*, *support* and *opportunities*. Children choose *how much* and *whether* to eat from what the parents provide.

Cue-based feeding: feeding initiated in response to signs from the baby indicating that s/he is ready to be fed, rather than a time-based schedule. Early signs, or cues, that an infant is ready to eat include stretching, stirring, putting fist in mouth, suckling, soft cooing and sighing sounds, searching with open mouth (rooting), rapid eye movement and waking.

Cue based feeding supports interactions between the baby's need, the mother's breast, and her milk production.

Responsive feeding and responsive parenting: responsive feeding occurs when the parent pays attention to, and understands, the cues from baby about timing, tempo, frequency, and amounts thereby helping the infant to be calm so feeding goes well. Responsive parenting is a key part of feeding but does include all interactions beyond food and feeding.

Responsive parenting is a process of recognizing and interpreting both the verbal and nonverbal communication signals of children. It is a reciprocal process that forms the basis for emotional bonding and attachment. A disruption of this process can result in distrust and insecurity that hinders a child social and emotional development.

Complementary feeding: at about 6 months of age, when exclusive breastfeeding or breastmilk alone is no longer enough to meet the nutritional needs of an infant, complementary foods or solids are gradually introduced into the infants diet. Breastfeeding continues to provide the main source of nutrition as other foods are introduced. Transition from exclusive breastfeeding to continued breastfeeding with the addition of modified family foods, which is referred to as *complementary feeding*, typically covers the period from 6 to 18-24 months of age and is a very vulnerable period. For non-breastfed infants, complementary feeding also starts about 6 months but at 12 months of age continued use of commercial infant formula is not necessary when an infant is offered a variety of nutritious family foods.

A key part of when to introduce solids is understanding the stage of infant development – body control and feeding/eating skills. Start solids based on what baby can *do*, not how old s/he is.

Food exposure: occurs when infants and children can see, smell, and touch food. It also occurs when infants and children see and experience others enjoying food and eating.

Food exposure can occur before an infant is ready to 'eat'. The age at which an infant is exposed to any particular food or food group or eating experience, as well as the frequency of exposure, is thought to influence how well a food/food group is accepted by toddlers/children. Early exposure is part of socializing, building social skills, learning to eat and developing eating competence. In addition, there is some evidence to show

that early exposure, touching food for example, helps to educate the infant's immune system (build their immune tolerance and reduce hypersensitivity)* however; parents should be discouraged from actively feeding an infant before an infant reaches 17 weeks of age.

Infants are part of the food exposure experience during breastfeeding but can be included in the family mealtime from an early age by sitting in their carrier at the table and interacting with the family at mealtimes even when they are not developmentally ready to eat solids. Infants are not developmentally ready until about 6 months of age i.e. can sit independently with good head and neck control.

As infants begin their gradual introduction to complementary foods, they can handle and play with food at the family table using foods that encourage exploration and learning as well as being offered age and stage appropriate foods to eat. Care should be taken that the food choices, sizes, textures and shapes do not pose a risk such as choking; at any childhood age. Exposure is also a very important part of introducing new foods or novel foods that a child has not seen and tasted before.

*For infants at risk for hypersensitivities, caution must be taken to reduce the possibility of an adverse reaction when exposing them to foods through touching or tasting.

FOLATE DEFICIENCY: See **ANAEMIA**

GASTROESOPHAGEAL REFLUX (GER) and
GASTROESOPHAGEAL REFLUX DISEASE (GERD):

Reflux is the backward flow (or leaking) of stomach contents up into the esophagus or mouth. This usually occurs shortly after eating. Reflux is often called *spit up*. Related information see "Compendium of Commercial Formula for Feeding Infants".

Gastroesophageal reflux or GER is a normal physiologic process that occurs throughout the day in healthy infants. GER is relatively common in healthy infants and generally resolves between 6 and 12 months of age. It is in that age range when the gastro-esophageal sphincter matures and is able to stay closed. GER generally presents with no nutrition issues. For most infants, symptoms of GER do not decrease with a change in milk formula or a switch to soy protein formula. Most infants can be managed conservatively with parental education regarding the natural course of GER in infants and with guidance on placing baby on their back to sleep and on appropriate feeding, especially as it relates to recognizing signs of hunger and fullness.

Gastroesophageal reflux disease or GERD occurs when complications from GER arise, such as poor weight gain, esophagitis, occult blood loss, persistent respiratory symptoms and/or failure to thrive. If there are complications, parents should be referred to the physician or paediatrician. Encourage parents who are formula feeding to consider the possibility of providing their infant with breast milk through relactation (consult with a lactation specialist). For an infant being fed commercial infant formula, thickened formula or a two to four week trial of a hypoallergenic formula or a short term course of acid suppression therapy may be recommended by a pediatric specialist.

IRON DEFICIENCY: See **ANAEMIA**

LACTATION:

Lactation is the process of synthesis and secretion of milk from the breasts in the nourishment of an infant and child.

Induced lactation also called adoptive breastfeeding is a term used to describe the process of stimulating milk supply in a woman who has never given birth to a child. Women who have never been pregnant can establish lactation, although the amount of milk produced is often less adequate for exclusive breastfeeding.

Breast milk production can be initiated in a person who has not breastfed before such as when a woman is adopting an infant or wants to nurse her own baby born via surrogacy. While breast milk production may not be enough for all of the infant needs, any amount of human milk, the closeness and skin-to-skin contact at the breast is of value. Measures include nipple stimulation (by baby/massage), breast pumps, herbs or medications, and hormonal therapy. Induced lactation has also been possible in men.

Relactation is the process of stimulating milk supply in a woman who has, at any time, given birth to a child whether or not she has borne the child whom she is now breastfeeding, and whatever the interval since her last pregnancy. Many women who relactate can produce enough milk to breastfeed an infant exclusively.

LACTATION AMENORRHEA METHOD (LAM): Is an interim family planning method based on using lactational infertility for protection from pregnancy. LAM is 98% effective in preventing pregnancy during the first 6 months provided the mother has not resumed menstruation and the infant is breastfed frequently with and interval between feedings less than 6 hours.

LACTATION CONSULTANT (LC): A health care professional who helps protect and support breastfeeding and specializes in the clinical management of breastfeeding. Lactation Consultants are certified by the International Board of Lactation Consultant Examiners Inc. International Board Certified Lactation Consultants (IBCLC®), are trained to focus on the needs and concerns of the breastfeeding mother-baby pair and to prevent, recognize and solve breastfeeding difficulties. They work in a variety of health care settings including hospitals, paediatric offices, public health clinics and private practice.

LACTOSE INTOLERANCE: The inability to digest and absorb lactose, which is the sugar in milk. It is the result of the deficiency or absence of lactase, the enzyme that splits lactose into glucose and galactose. Lactase is in the epithelial cells that are located on the tips of the villi in the small intestine. The consumption of milk and/or milk products results in gastrointestinal symptoms, primarily abdominal pain, diarrhea, flatulence and less commonly abdominal bloating, abdominal distention and nausea. There are different forms of lactose intolerance:

Primary is the most common cause of lactose malabsorption or lactose intolerance. It is a relative or absolute absence of lactase that develops in childhood at various ages in different racial groups. For example, First Nations and Métis children and children of Asian, African and South American descent may have evidence of intolerance prior

to five years age. Children of European descent typically do not develop symptoms of lactose intolerance until after four or five years of age.

*First Nations children have a 7.4% incidence lactose intolerance; Métis children 5.6%. see Statistics Canada Feb 2012 "Health of First Nations children living off reserve and Métis children younger than age 6"

Secondary a lactase deficiency resulting from an acute infection (e.g. Rotavirus), which causes small intestinal injury and subsequent loss of lactase containing epithelial cells. Clinical signs of lactose intolerance are seen in celiac disease, Crohns disease and immune-related enteropathies. Young infants with severe malnutrition develop small intestinal atrophy that also leads to secondary lactase deficiency. Secondary lactose intolerance can present at any age but is more common in infancy.

Congenital is due to a mutation in the gene that is responsible for producing lactase. The condition is very rare and the symptoms begin after the first feeding.

LAID BACK NURSING: Also termed *biological nurturing* is a maternal breastfeeding position where the mother is fully supported in a semi reclined position between 15 and 45 degrees. Infant is placed 'tummy ON mummy' – a position that works with gravity. This position has been shown to provide mother and baby with access to nursing reflexes that promote an infant to latch more readily. See video www.biologicalnurturing.com/video/bn3clip.html

METHAEMOGLOBINAEMIA: The presence of higher levels than normal of methaemoglobin in the blood. Methaemoglobin is a form of hemoglobin that does not carry oxygen. As a result, the ability of the blood to supply body tissues with oxygen is reduced. Ingestion of nitrates in drinking water has long been thought to be the primary cause of acquired infantile methaemoglobinemia, often called *blue baby syndrome*. However recent research shows a much more complex picture of the causes. Methaemoglobinaemia in infants can also be due to a congenital enzyme deficiency, acquired through exposure to oxidizing drugs or it can be consequence of gastrointestinal disturbances (of infectious origin or secondary to cow's milk protein allergy) accompanied by diarrhea and vomiting. Recently, the issue of prepared and stored homemade purees has been identified as a potential cause. Purees of mixed vegetables should be prepared for immediate use or kept frozen when consumption is delayed for more than 24 hours.

MILK EJECTION REFLEX or **LETDOWN REFLEX:** A normal reflex in lactating women – a contraction of the myoepithelial cells surrounding the alveoli caused by tactile stimulation of the nipple; necessary for removal or release of milk from the breast. This reflex is the single most important function that affects the success of breastfeeding. The mother may produce milk, but if not released, further production is suppressed. It is a complex function governed by hormones, nerves and glands. It can be easily inhibited by a psychological block.

Dysphoric milk ejection reflex is a situation where there is an anomaly in the milk release mechanism in lactating women. Just before let down and only for a brief few minutes, the mother experiences emotional, unsettling, and unpleasant feelings that might include churning in the pit of the stomach, depression, anxiety or anger. DMER is a physiological response not a psychological one. It is not post-partum depression, nausea or breastfeeding aversion however, this experience may be unsettling enough to effect early weaning.

PRACTICE-BASED EVIDENCE IN NUTRITION (PEN): Developed by Dietitians of Canada (DC) to address the need of health professionals for ready access to timely, current and authoritative guidance that answers the day-to-day questions encountered in practice in all settings. In developing content for PEN, validated refined filtered information sources are used including synopses, well-conducted systematic review and reputable practice guidelines and formed the basis for the evidence synthesis. Where filtered sources fail to address practice questions, Pub Med is used to identify appropriate articles for analysis and synthesis. Access to PEN is by subscription only.

PUBLIC HEALTH NUTRITIONIST: Using a population health promotion approach, the Public Health Nutritionist focuses on what determines health and confronts root causes of nutrition-related conditions and illnesses. The nutritionist works to promote, protect and support nutritional health and prevent nutrition-related disease in order to achieve the best possible health outcomes for the Saskatchewan population. Public Health Nutritionists promote nutritional guidelines and collaborate to build healthy public policies and conditions that support healthy communities. Decisions are based on best/effective practice.

RITUAL FLUIDS: Rituals fluids exclude an infant from being classified 'exclusively breastfed' according to the Breastfeeding Committee for Canada (*BCC, Breastfeeding Definitions and Data Collection Periods*). The term describes the practice around offering fluids or foods, other than breastmilk, to infants and toddlers. Ritual fluids might be given to an infant prior to the initiation of breastfeeding, a *prelacteal feed*, or after initiation of breastfeeding, a *post-lacteal feed*. The type of ritual feed depends on the culture as does the reason for offering it.

ROOMING IN or **ROOM SHARING:** Is a term used to describe sharing a room where mother and infant sleep in the same room but NOT in the same bed or sleep surface. They each sleep in their own bed (mother in her bed and infant in a basinet or crib).

SUCKLING: To take nourishment at the breast. *Suckling* specifically refers to breastfeeding (in all species). Sucking means to draw into the mouth by means of a partial vacuum, which is the process employed when bottle feeding. There are two forms of suckling – nutritive and non-nutritive. Nutritive provides the infant's essential nutrition. Non-nutritive sucking is spontaneous sucking without liquid being introduced into the infant's mouth. In premature infants it has emotional and physiological benefits. For example it increases peristalsis, enhances digestive fluid secretion and decreases crying.

SUPPLEMENTARY FEEDING: A food based intervention (e.g. infant formula, solid foods) aimed at preventing or treating growth faltering by optimizing and supporting nutritional well-being in children and adequate growth in premature or at risk infants.

Supplementary feeding can also include community-based supplementary feeding programs, which are the provision of extra food to children or families beyond the normal ration of their home diets, and can take place in the home, feeding centres, health-care centres and schools.

VITAMIN MINERAL SUPPLEMENTATION: Health Canada recommends that individuals consume a variety of foods to meet their nutritional needs since no single food can supply all the nutrients in the amounts needed by an individual. There are ages and stages in

the lifecycle when the increased need for specific nutrients cannot be met by food. Health Canada provides advice for vitamin And mineral supplementation at the *population level*. For example, Health Canada recommends Vitamin D for all breastfed babies in Canada.

Recommendations for vitamin mineral supplementation at the *individual level* are based on the individual's need to meet the Daily Recommended Intake (DRI) for specific nutrients e.g. it may be necessary for some women to take calcium supplements in order to meet the recommended intake of calcium. Some individuals may require vitamin And/or mineral supplementation at a level higher than the recommended intake. These are called *therapeutic levels*. In individual cases, an assessment should be completed and recommendations should be under direction of a physician and/or dietitian.

WORLD HEALTH ORGANIZATION (WHO): The directing and coordinating authority for health within the United Nations system. It is responsible for providing leadership on global health matters, shaping the health research agenda, setting norms and standards, articulating evidence-based policy options, providing technical support to countries and monitoring and assessing health trends.

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Nutrition and Growth Assessment Manual for Infants and Children 2014

Assessment *for* Breastfed Infant 0-6 Months

Feeding Relationship p. 25

Mother and child exhibit satisfaction with the feeding relationship

- Mother understands the benefits of skin to skin contact
- Mother recognizes and responds to early feeding cues from the infant
- Mother understands the signs that her infant is getting enough breastmilk
- Mother is responsive to feeding cues during nighttime as well a s daytime
- Mother knows how to wake a sleepy infant
- Mother understands that excessive crying can be a normal part of child development
- Mother has the skill to express breastmilk

A quality feeding relationship exists within the context of a supportive family environment

- Partner or significant other supports the mother/child nursing couple
- Mother and partner are aware of contraceptive methods that support exclusive breastfeeding
- Parents make adjustments to reduce their infant's exposure to lifestyle risks

Parents have access to supports including specialized counseling

- Mother suspected of postpartum depression receives appropriate referral and management
- Mother dealing with trauma or violence is aware of resources she can access
- Mother returning to paid work is aware of resources she can access to sustain breastfeeding

Growth & Development p. 33

Infant growth is progressing normally

Growth pattern tracks parallel to the 50th percentile over time and falls between the 3rd and 85th percentiles

Weight loss for breastfed babies should be no more than 7% of birth weight

Infant exhibits age appropriate development as it pertains to feeding

Nutrition p. 36

Infant is exclusively breastfed for 6 months with continued breastfeeding for up to 2 years and beyond

- Infant does not receive any infant formula unless medically indicated
- Mother and infant achieve a comfortable and effective latch
- Mother understands that more breastfeeding at first means more milk later
- Mother recognizes factors that may impact the ability to breastfeed
- Mother recognizes the maternal and/or infant contraindications to breastfeeding and knows what actions to take
- Infant is exposed to family mealtimes, food and eating experiences but introduction to solids is delayed until about 6 months
- Infant is offered foods rich in iron among the first foods at about six months while continuing to breastfeed to 2 years and beyond

Safe and sanitary procedures are followed when preparing and storing food and when feeding the infant

- Expression and storage of human milk meets safety standards
- Donor human milk meets safety standards
- Formula for partially breastfed infants is prepared, stored and served using sanitary and safe procedures Refer to Non-Breastfed Infants 0-6

Infant exhibits normal elimination patterns

Mother and family have access to enough healthy foods

- Vegetarian mothers have adequate access to nutrient rich foods
- Mother of an infant at high risk for atopy receives the support needed
- Mother's weight loss does not exceed normal losses of 2-4 lbs per month
- Income and family resources are sufficient to provide food security for the whole family

Mother and infant take only recommended supplements

- Mother achieves and maintains an adequate Vitamin D status
- Infant receives adequate Vitamin D
- Infant achieves and maintains an adequate iron status
- Infant receives probiotics only when medically indicated

Expected Standard	Potential Problem	Information to Parents
The Division of Responsibility is a key piece of the feeding relationship. Parents are responsible for **what** is offered. Infants get to decide **how much** and everything else – **when** to eat and whether they eat. Parents choose breastfeeding (*the what*) and help the infant be calm and organized, then feed while paying attention to information coming from the infant about timing, tempo, frequency and amount. Fundamental to parents' jobs is to trust their children to decide *how much* and whether to eat. If parents do their jobs with *feeding*, children will do their jobs with eating and learn to become competent eaters. www.ellynsatterinstitute.org		
Mother and child exhibit satisfaction with the feeding relationship	Mother expresses dissatisfaction with breastfeeding or feeding relationship	Discuss parental concerns. Offer guidance on the types of supports and structure that can help mothers' breastfeed successfully. Many factors affect the breastfeeding and feeding relationship. Remind parents it may take 6-8 weeks for mothers and infants to learn from each other. Mothers and infants work together to find their rhythm and fully establish breastfeeding. Breastfeeding is nature's way to promote attachment. **NOTE:** If mother indicates infant does not feed well or the infant's growth is not trending well or infant is fussy, or either appears stressed, ask mom about feeding cues and the feeding experience; provide guidance and assistance as required. See the potential problems in this section listed below.
• Mother understands the benefits of skin to skin contact	Breastfeeding is not going well Attachment and bonding issues	Ask the mother about her birthing and breastfeeding experience and if she had skin-to-skin time in hospital with her infant. Ask if infant has skin to skin time at home.[5] Encourage mother to breastfeed skin-to-skin.[1] It enhances maternal positive feelings, mother-infant bonding, attachment and it shortens the time it takes to resolve latch-on problems.[22,24] Skin-to-skin increases breastfeeding duration; as does peer support and family support in hospital and at home.[34,35] Semi reclined nursing, such as the laid back nursing or biological nurturing position, may help mediate breastfeeding problems. It helps an infant respond to skin-to-skin contact with the mother and to more easily exhibit feeding reflexes such as crawling, searching for the breast and latching.[23,24] see the Operational Definitions. A public health nurse and lactation consultant can assist mother to find a feeding position that works for that pair. **NOTE:** It is important that health professionals acknowledge and respect cultural and traditional practices that promote breastfeeding and maintain a breastfeeding culture despite the absence of skin to skin contact.[35] In populations with a strong culture of breastfeeding, an absence of skin to skin did not reduce initiation or duration rate.[35]

Expected Standard	Potential Problem	Information to Parents
• Mother recognizes and responds to early feeding cues from the infant	Mother misinterprets feeding cues Infant appears stressed with feeding Mother-led feeding	Early feeding cues are: sucking movements and sounds, hand to mouth movements, rapid eye movement, restlessness, soft cooing or sighing sounds.[1,22] Some signs may be more discrete such as squirming or blinking. Feeding in response to early feeding cues helps with getting an effective latch and suckling. Mother may misinterpret the infant feeding cues, which may lead her to supplement with infant formula[22] or think that she does not have enough milk.[1,27] Recognizing and responding to early feeding cues can help create a calm, low stress feeding experience for mother and infant. Mother pays attention to information from the baby about timing, tempo, frequency, and amount.[21] Cue based feeding (feeding in Operational Definitions) as opposed to scheduled/timed feedings accommodates a wide range of feeding patterns in exclusively breastfed infants.[22] Infants' appetites go up and down based on growth and growth is variable. An infant may seek more breastmilk when growth rate goes up (growth spurt) and not feed as much when growth rate is down. Advise parents to focus on infant cues and not feed on a schedule. Remind parents that an infant has a small stomach and may feed frequently day and night. As they grow, their stomachs can hold more milk so that they develop more regular feeding patterns. Mother-led feeding ignores an infant's inherent ability to show hunger and fullness; affecting and infant's eating and food behaviors.[47] Health professionals can help the parents understand Division of Responsibility and their parenting style.[21]
	Feeding is initiated when baby cries	Crying is a late feeding cue.[22] Waiting until baby cries to feed may make baby too anxious to feed or feed well. Crying and anxiety makes feeding stressful for both mother and infant and interferes with effective breastfeeding.
	A pacifier is used • delayed feedings • scheduled feedings	Pacifiers interfere with breastfeeding and should also be avoided until breastfeeding is well established.[5,22,36] Its use may also shorten how long a mother breastfeeds.[36] A pacifier is not a substitute for breastfeeding and should not be used to delay any feed (day or night). Pacifier use can lead to the reduced intake of breastmilk and possible poor weight gain or weight loss.

Expected Standard	Potential Problem	Information to Parents
		Infants have small stomachs and need to feed often, on demand, to maintain their growth trend. Using a pacifier can affect intake and it does not satisfy the infants need for feeding or skin-to-skin contact.
• Mother understands the signs that her infant is getting enough breastmilk	Mother perceives she does not have enough breast milk	Signs of effective breastfeeding in mothers include:[22] • noticeable increase in firmness, weight and size of breast • noticeable increase in milk volume by day 5 • full breast feeling is relieved by breastfeeding • no pain or minimal pain when infant latches and last only a few seconds Signs the infant is getting enough milk include:[1,22] • appropriate weight gain • appropriate elimination patterns • audible swallowing when breastfeeding by day 4 • infant comes off the breast relaxed and content Remind mothers that the first few weeks after birth are a learning period for her and her infant. It is when the body is establishing milk supply. It may take 6 to 8 weeks for mothers and infants to find their rhythm and fully establish breastfeeding. Perceived milk insufficiency is a common and influential reason for the low rates of breastfeeding duration (early weaning) and breastfeeding exclusivity.[27] It is rare that a mother would not produce enough milk for her infant.[1] Many mothers believe that their milk supply is insufficient if the infant does not seem satisfied after a feed[27] yet the issue is usually that the infant is not breastfeeding effectively or there has been a miscommunication in the feeding relationship. Encourage mothers to breastfeed without time restriction to support the milk supply. Infants feed 8 or more times in 24 hours (nighttime and daytime) and cluster feed at times (closely spaced feedings). During growth spurts an infant typically feeds more often, for a few days; increased nursing will increase mother's breast milk supply to meet infant needs. Related Standards: **Mother understands that more breastfeeding at first means more milk later** *and* **Mother recognizes and responds to early feeding cues from the infant** *and* **Infant exhibits normal elimination patterns** *and section* – **Growth & Development**

Expected Standard	Potential Problem	Information to Parents
		NOTE: the infant of a mother whose breastmilk has lower fat content will typically feed longer than the infant of a mother with high fat milk content.[22,39] Exclusively breastfed infants feed 6-18 times in 24 hours and consume about 76 grams (2.6 oz) of breastmilk per feed.[22,39]
• Mother is responsive to feeding cues during nighttime as well as daytime	Expect the infant to sleep through the night Infant separated from mother during night Scheduled feedings	Cue-based feeding and a responsive parenting style positively affect milk supply and the satisfaction with feeding. Remind parents that: • breastfeeding during the night is important to keeping an infant gaining weight • infants who room-in with their mothers have more opportunities to breastfeed • rooming-in also reduces the risk of SIDS[28] • breastfeeding mothers who room-in with the infant may get more rest Discuss with the mother what makes a safe sleeping environment. The Canadian Paediatric Society provides information on risks and safety of a variety of factors related to sleep environment.[28] Related Standards: **Mother recognizes and responds to early feeding cues from the infant** *and* **Mother knows how to wake a sleepy infant** *and* **Mother understands that more breastfeeding at first means more milk later**
• Mother knows how to wake a sleepy infant	Infant does not achieve birth weight within 10-14 days of age Infant is not gaining weight Infant sleeps through the night	Infants need to feed 8 or more times a day (nighttime as well as daytime) to ensure an adequate energy intake for healthy growth and development. Some infants need help to wake and other infants might sleep as a way to cope with discomfort, over-stimulation, and hunger.[22] An infant that sleeps a lot may not feed frequently enough, which then interferes with growth and weight gain. Frequent feeding also helps establish and maintain milk supply.[39] Discuss with the mother what the usual sleep and wake patterns are of infants, what her infant's patterns are and the relationship to growth. Infants have several sleep states – deep sleep, light sleep, drowsy, quiet alert, fussy or active alert and crying. It is easiest to initiate feedings when the infant is in the drowsy, quiet alert, or active alert state. Infants feed best when their cues, rather than mother's schedule, set the frequency and pace and when they are calm. Strategies to wake an infant are; remove blankets, change the diaper, place the infant skin to skin, massage the infants back, abdomen, arms and legs; and a semi-reclined nursing position with skin to skin contact can also rouse an infant.[22]

Expected Standard	Potential Problem	Information to Parents
		Room sharing or rooming in (Operational Definitions) facilitates attachment and breastfeeding and can help both mother and infant respond to feeding cues to ensure infant feeds well and often. It also provides reassurance and comfort for the infant as well as helps an infant fall asleep more easily after feeding. Discuss with the mother what makes a safe sleeping environment. The Canadian Paediatric Society provides information on risks and safety of a variety of factors related to sleep environment.28 Assess for potential problems if a mother notes her infant is sleepy, sleeps through the night, there are concerns with weight gain or infant sleeps in a separate room. Offer guidance as required to ensure appropriate weight gain and growth trends. Related Standards: **Parents are responsive to feeding cues during nighttime as well as daytime** *and* **Mother recognizes and responds to early feeding cues from the infant**
• Mother understands that excessive crying can be a normal part of child development	Perception of excessive crying, colic and purple crying as "abnormal"	Excessive crying or colic can be a normal syndrome of infancy;[31] reassure parents it does self-resolve.[1,31] For an infant, crying is one form of normal self-expression that is usually, not always, associated with hunger, fatigue or discomfort. Colic in infants is defined as excessive crying in an otherwise healthy and thriving baby. A period of longer, stronger, and unexplained crying that typically begins when infants are about 3 weeks old, peaks in intensity around 6-8 weeks and tends to decrease by the age of 4 to 5 months,[1] although it can last longer. Excessive crying is defined as crying that lasts at least 3 hours a day, for 3 days a week, for at least 3 weeks. New information suggests this period of intense crying is a normal part of baby's development. Some babies cry much longer and more intensely than others; a period of 'purple crying'. (see Operational Definitions[53,54,55]) Although excessive crying may be normal, it is good practice to ensure there are no underlying physical or medical issues with the infant (e.g. a secondary sign of a milk protein allergy[31]) OR mental/emotional health issue with the mother. Refer a mother to the appropriate health provider. **NOTE:** In most cases, these typical infant behaviors e.g. crying, fussiness or colic are not reasons to stop breastfeeding or to start supplemental feeding. Some feeding issues that can also affect an infant include: infant taking in a large volume of milk, low amount of hindmilk at feedings, or an overactive letdown reflex.

Expected Standard	Potential Problem	Information to Parents
• Mother has the skill to express breast milk	Mother has difficulty hand expressing breast milk	Hand expression is an important skill that allows a mother to build and maintain her breastmilk supply.[1] In addition to hand expressing, mother can use a pump and store and save breastmilk for those times when the mother and infant are separated. This is protective of mother and infant health during times of separation. When mother and infant are separated, any family member or caregiver can feed the infant mother's breastmilk, which supports exclusive breastfeeding rather than using any supplemental feed. An infant benefits from mother's own breastmilk even when the infant cannot be at the mother's breast. Assistance for learning the hand expression technique can be found through referral to the lactation consultant, or an early or post-natal visiting program, breastfeeding clinic or from a mother-to-mother support group as well as the public health nurse. Related Standards: **Safe and sanitary procedures are followed when preparing and storing food and when feeding the infant** (Expression and storage of human milk meets safety standards) *and in section for* **Breastfed Infants 6-24 Months – Mother returning to paid work is aware of resources she can access**
A quality feeding relationship exists within the context of a supportive family environment		Include all family members (father, partner, siblings, grandparents, aunts, caregivers etc.) in breastfeeding education. Mothers are more likely to exclusively breastfeed for the first 6 months and continue breastfeeding longer when family members are supportive.[22] Knowledge, attitudes and cultural or generational beliefs and practices may or may not support breastfeeding (i.e. exclusive breastfeeding to six months and continued breastfeeding to two years and beyond).
• Partner or significant other supports the mother/child nursing couple	Breastfeeding is not recognized and valued as mother's work	Support from others including family, friends and other breastfeeding mothers, can provide encouragement. Support also helps to overcome feelings of isolation and being tied down.[1,4,5] Equitable and reciprocal sharing of work can be practiced by fathers. Fathers (as well as other family members) can be responsible for other caring and household tasks. This work sharing can offer the mother time and space to breastfeed.

Expected Standard	Potential Problem	Information to Parents
• Mother and her partner are aware of contraceptive methods to support exclusive breastfeeding	Prescribed contraception is incompatible with breastfeeding Contraceptive choice interferes with breast milk supply	Estrogen-containing pills may reduce breast milk production.[22] It is the reduced milk supply that may subsequently interfere with infant growth. Parents should be referred to their physician about contraception.
• Parents make adjustments to reduce infant's exposure to lifestyle risk behaviours	Smoking Alcohol Illegal drugs	Remind parents that smoking, alcohol and drugs (including medications) can affect an infant's health.[30] These are also risk factors for safe room sharing with infant.[28] Maternal smoking is linked with short duration of breastfeeding.[22] Canadian Centre on Substance Abuse has harm reduction guidelines for alcohol consumption.
Mother has access to supports including specialized counseling	Mother is unaware of those available supports or does not know how to access supports	Support or counselling may be for a variety of concerns such as lactation, nutrition, atopy, postpartum depression and workplace accommodation. Referrals to support and counseling services for parents, infants and families can be made by the health provider. See: **Guide to Referral Resources**
• Mothers suspected of postpartum depression receive appropriate referral and management	Symptoms of postpartum depression are not recognized: • crying for no apparent reason • emotional numbness • feeling of helplessness • frightening thoughts or fantasies • over-concern for infant • anxiety or panic attacks • sleeping problems • changes in appetite and weight • depression that may range from sadness to thoughts of suicide • difficulty concentrating and making decisions Mother does not receive appropriate treatment	Postpartum depression is more than just the temporary feeling of sadness or lack of energy. Postpartum depression is a medical condition that develops over the months after childbirth. Early treatment is important for mother, infant and family. Postpartum depression is not the baby blues. Baby blues peaks at about day 4 after delivery and resolves by day 10 with weepiness, irritability, and anxiety but without the effect on a mothers ability to function as seen in postpartum depression.[6] The infant of a depressed mother can be less attached to its mother and lag behind developmentally in behaviour and mental ability.[6] In addition, a depressed mother may be less likely to initiate or attempt breastfeeding and more likely to discontinue breastfeeding.[7] Breastfeeding however, does not cause depression. Breastfeeding is associated with fewer depressive symptoms.[7,8] A mothers confidence in her ability to breastfeed as well as breastfeeding difficulties can predict breastfeeding outcomes.[7,22] The more confidence a mother has the less likely she is to have depressive symptoms and report feeding difficulties.[7] Depressed mothers are more likely to have poorer self-confidence and they report more feeding difficulties.[7] Breastfeeding difficulties, such as nipple pain, can increase the risks of depression;[8] demonstrating why breastfeeding support from facility, community as well as friends and family is so important.

Expected Standard	Potential Problem	Information to Parents
		Depression can negatively affect infant-feeding outcomes[7] so the sooner treatment starts the more quickly a mother and infant recover and the less infant development is affected.[6,7] Most treatments are compatible with breastfeeding[6] refer mothers to an appropriate health professional for treatment, recommendations and follow up. The Edinburgh Postnatal Depression Scale is a tool to screen for potential antenatal and postpartum depression. Help a mother identify issues and arrange for counseling and medical support to ensure access to services. Connecting the mother to other supports e.g. parent groups and family centres, may help with isolation, depression and reduce the risk of early weaning.[7]
	Untimely weaning	If weaning has occurred, explore with the mother what feelings she may be having about this. It may be the reason or part of the reason for feeling depressed. Explore the possibility of re-lactation and if the mother is interested, refer her to a lactation consultant for support and resources. Breastfeeding is linked with fewer depressive symptoms.[7,8] Related Standard: **Mother understands the signs that her infant is getting enough breast milk**
• Mother dealing with trauma or violence is aware of resources she can access	Mother is dealing with trauma or danger of violence	Mother may need supportive medical, legal and mental health advice to maintain the nursing couple (mother and infant) during the breastfeeding period. In abusive relationships, there are risks of increased violence against breastfeeding mothers. Health provider may need to connect the mother to other support services. Mother is provided information about available safe houses and other community supports.
• Mother returning to paid work is aware of resources she can access	Mother is not accommodated when she returns to paid work	Remind parents of their right to breastfeed when they return to work and of their employer's duty to accommodate (refer to Saskatchewan Human Rights). Lack of support and accommodation to maintain breastfeeding can lead to untimely weaning. Refer to a lactation consultant to assist mother to resume breastfeeding and/or maintain her breastmilk supply.

Expected Standard	Potential Problem	Information to Parents
For more information about the WHO Growth Charts and the evidence summary and appropriate interpretation, refer to www.whogrowthcharts.ca (Dietitians of Canada). Dietitians of Canada hosts an orientation package (five training modules & related resources) for monitoring growth in infants and children using WHO growth charts in Canada.		
Infant growth is progressing normally Serial measurements of weight and length and head circumference are measured, recorded and plotted accurately on the appropriate WHO growth charts[1,41,42] weight-for-age length-for-age weight-for-length, head circumference-for-age • Parental height is recorded • Record infant age in years/ months/days; plot to nearest completed ½ month • Cut-off criteria using WHO charts Equipment should be standardized regularly as per health region protocols. Infants born < 37 weeks gestation are age adjusted before plotting.[42] Adjusting age should be done until the infant is at least 24 months.	Inaccurate assessment of growth[44] due to: • Missing measurement(s) • Inaccurate measurement(s) • Inaccurate recording and/or plotting • Inappropriate equipment • Key information relevant to interpretation and assessment is missing	Let parents know you assess an infant's growth pattern based on measures plotted on growth charts. Explain the importance of trend over time and the related information that provides context for the charts or what is seen in the charts. The goal is not for infants to be at the 50th percentile[41,42] it is the trend or direction on the curve that is important. Advise parents that it is important to look at patterns of growth rather than any one single measurement. Regular measurements (serial measures) are required to be able to assess growth.[1,41] One measure does not provide enough information on how an infant is growing.[41,42] A measurement taken at any one time only describes an infant's size at that point in time. When measurements at only one time point are available **weight for length** gives more information overall (speaks to growth proportion) and help parents understand whether the infants' size is within or outside an expected range.[42] An infant's growth trend is an indicator of successful establishment of breastfeeding as well as the frequency and effectiveness of breastfeeding.[1,22] Following growth is essential to detecting nutritional inadequacies or underlying disease.[44] An infant who is not trending well needs to be assessed (anthropometric, growth potential, history, physical exam, development, feeding relationship, and family dynamics)[44] and may require assessment from several health specialties.
Growth pattern tracks parallel to the 50th percentile over time and falls between the 3rd and 85th percentiles **NOTE:** Infants born at a low birth weight are expected to track parallel to the 50th but on the lower percentiles	Growth falls outside expected range (3rd – 85th) Head circumference outside expected range Sharp rise or fall in weight or length Growth curve is flat	When a child's growth or single indicator is outside of expected range, re-measure, verify age and re-plot. Recheck all measures together to ensure accurate numbers and interpretation.[44] Offer parents anticipatory guidance, support for breastfeeding and appropriate referral if there are concerns. Advise parents that infants who grow outside of the 3rd to 85th percentiles but track parallel to the 50th percentile may be growing normally for them. More information is needed, especially in relation to parental size, medical and developmental issues, feeding relationship, and adequate nutrient intake in relation to iron and Vitamin D.[41]

Expected Standard	Potential Problem	Information to Parents
NOTE: Crossing a percentile for **both** weight and length may be normal for the first 2 to 3 years.[44] Crossing percentiles is called channel surfing.[41,42,43] When the change in weight and length is similar, the child may be moving toward their genetic potential.[44] Further assessment is needed to rule out other reasons for any change in growth. **NOTE:** Breastfed infants tend to grow more quickly in the first six months and more slowly in the second six months of life compared to non-breastfed infants.[41,43,44] Assess **pattern** of weight, linear growth, and the ratio of weight-length as well as whether infant is breast or non-breastfed **before** suggesting changes in feeding.[42,43]		Interpretation of infant growth should include clinical, developmental and behavior assessment as well as breastfeeding; consider all factors along with gestational age, birth weight, and acute or chronic illness.[1] An increase or decrease in growth may be an expected result from an issue such as catch up growth after illness, change in feeding practice or overfeeding, weight loss from illness, however; to prevent potential growth disturbances, any change should be reviewed and assessed. All changes in weight or length must be investigated.[41,44] Assist parents in identifying issues or concerns they may have about their infant's growth and/or feeding relationship. Identify medical and/or developmental issues. Once all information is available, based on the assessment:[44] • reinforce that the infant is growing and developing well or • assist parents in understanding the need for additional observation and monitoring or connect them with appropriate support or referral as needed Referral may be needed if: • Growth is less than 3rd percentile or greater than the 85th percentile • Weight-for-length is greater than the 97th percentile (further assessment recommended) Referral is appropriate if: • Infant's head circumference for age is below the 3rd percentile or above the 97th percentile • There is a sharp upward or downward growth trend over a short period • There is a consistent flat growth trend • There is a questionable growth trend with red flags related to medical concerns of mother or child, development, feeding relationship and/or nutrition **NOTE:** Percentile lines < 3rd and > 97th are not on all growth charts and are only included if relevant to a particular age. Growth < 0.1st percentile or > 99th are criteria for severe wasting/underweight and obesity/severe obesity respectively; these criteria are NOT diagnostic.[41,42] Refer to clinician. www.whogrowthcharts.ca

Expected Standard	Potential Problem	Information to Parents
Weight loss for breastfed babies should be no more than 7% of birth weight • By day 5, weight gain 20-35 g/day • By 10 days, regain birth weight	Infant is still losing weight after 5 days Infant doesn't gain at least 20 g/day by day 5 Infant does not regain birth weight by 14 days Infant loses ≥10% of birth weight	Advise parents of expected weight loss/gain during the first 2 weeks as well as in the first few months. Most newborns gain about 28 g a day for the first few months[22] but rate varies. Infant weight gain, per month, from 0-3 months is about 600-1400 grams and from 3-6 months it is 300-800 grams per month.[1] Weight and steady weight gain can be a good indicator of effective breastfeeding.[1,22] Weight loss ≥10% of birth weight or longer time to regain birth weight, can be signs of unsuccessfully establishing full breastfeeding, inadequate breastfeeding and high physiological stress (e.g. caesarian section, jaundice); these infants need dedicated breastfeeding support.[45,46] Insufficient bowel movements may also signal an infant not breastfeeding well;[22] infrequent stooling may be normal if the pattern of bowel movements is regular and the infant is growing well. Encourage parents to come in for regular weight monitoring so that potential growth faltering and poor feeding can be addressed early. Parents may need guidance about breastfeeding, infant led feeding, cues and other supports to ensure a happy healthy feeding relationship and adequate nutrition.[43,44] A mothers perception of breastmilk supply is associated with infant weight; her infant's weight loss may lead her to give up on breastfeeding or wean early.[22,45] Related Standard: **Infant exhibits normal elimination patterns** *and* **Mother understands the signs that her infant is getting enough breast milk**
Infant exhibits age appropriate development as pertains to feeding	Infant does not reach expected developmental milestones	Discuss having infant included at the family table during mealtimes about the age of 3-4 months. This begins to build social skills and can increase food acceptance later. (Food exposure – Operational Definitions) Related Standard: **NUTRITION Infant is exposed to family mealtimes, food and eating experiences but introduction of solids is delayed until about 6 months**

Expected Standard	Potential Problem	Information to Parents
Infant is exclusively breastfed for 6 months with continued breastfeeding for up to 2 years and beyond	Decreased immunological benefits leads to less protection against gastrointestinal infections	Exclusive breastfeeding for 6 months provides the infant with optimal nutritional, emotional and immunological benefits. Human milk provides all of the fluid and nutrients needed for normal infant growth.[22] There is a process to induce lactation, for mothers who adopt for example, should they wish to breastfeed. Mothers who stopped breastfeeding can explore the option of re-lactation. Refer to a lactation consultant or specialized practitioner. Related Standard: **Infant receives adequate Vitamin D**
• Infant does not receive any infant formula unless medically indicated	Infant receives infant formula when it is not medically indicated	Type of feeding in the first 6 months of life appears to be one of the most important determinants of infant, child and adult well-being.[48] Breastmilk is unique, is the food of choice and stimulates the immune system. Not breastfeeding has consequences; the risks to infants who do not breastfeed include gastrointestinal infection, NEC (in preterm infants), Otis media, lower respiratory tract infection, and SIDS.[5,49] Infant formula is often suggested for many issues but the acceptable temporary and long-term medical reasons for using commercial infant formula are limited. See the World Health Organization (WHO) recommendations "Acceptable medical reasons for breast milk substitutes". Formula can negatively affect the establishment of breastfeeding. Mothers may also misinterpret an infant's feeding cues or breastmilk supply, which can lead mother to unnecessarily supplement with commercial infant formula.[22] When infant formula is introduced or 'supplements' breastfeeding, breastmilk supply may be compromised. Infant formula feeding may reduce the frequency and duration of breastfeeding.[22] Related Standards: **Mother understands the signs that her infant is getting enough breast milk** *and* **Mother recognizes maternal and/or infant contraindications to breastfeeding and knows what action to take**
• Mother and infant achieve a comfortable and effective latch	Nipple trauma Nipple pain	Good positioning and an effective latch are keys to preventing nipple trauma. The infant needs to be well supported at the level of mother's breast.[22] Semi-reclined nursing positions and skin-to-skin contact may help to resolve problems.[22,24] To achieve an effective latch, an infant needs mouth wide open with flared lips and chin touching the breast.[22] Nipple trauma often occurs if the infant does not take the breast deep enough into their mouth. When latched well, with the nipple in infant's *comfort zone* (where roof of infant's mouth turns from hard to soft), breastfeeding should not hurt.

Expected Standard	Potential Problem	Information to Parents
		If baby is not latching well or is unable to latch, recommend hand expression or the pump so that a mother can maintain her milk supply while working through latch or nipple issues. If the nipple trauma or pain is not due to ineffective position or latch, consider other causes of pain such as bacterial or fungal infections (mastitis, yeast). Mother may require medical support, refer to physician. Mothers who report feeding difficulties and/or nipple pain/trauma are at higher risk for postpartum depression.[8] Mothers may be referred to a lactation consultant, early visiting program, PHN, breastfeeding clinic or parenting centre for more support.
• Mother understands that more breastfeeding at first means more milk later	Long periods between feedings leading to inadequate milk supply Fullness, engorgement	To establish good milk supply, mothers need to breastfeed often in the first weeks without time restriction (8 or more times in 24 hours). Infants feed on cue as often as they want, day and night. An infant stomach is small and needs to be filled often. Breastmilk is easily and quickly digested. Reassure mothers that it is normal to feed frequently. The amount of milk a mother produces varies and each mother has a different capacity to store breast milk in her breasts.[22] Exclusively breastfed infants feed 6 to 18 times in 24 hours and consume about 76 grams (2.6 oz) of breastmilk per feed.[22] Encourage mother to also learn the skills of milk expression to build and maintain her milk supply. Mothers may misinterpret feeding cues, which may lead mother to supplement with infant formula.[22] Related Standards: **Mother understands her infant is getting enough breastmilk** *and* **Mother recognizes and responds to early feeding cues from the infant** Ensure mother understands that normal fullness is relieved with frequent effective breastfeeding. Empty one breast before offering the other so infant is better able to get both foremilk and calorie rich hind milk. Signs of infant effective breastfeeding are audible swallow, relaxed arms and hands and being content after feedings.[22] Signs of effective breastfeeding for mother are nipples do not look misshapen and her breasts are soft. Unrelieved engorgement or swelling requires treatment.

Expected Standard	Potential Problem	Information to Parents
	Perceived insufficient milk supply Untimely weaning	The perception of insufficient milk is an issue for many mothers but in most cases, not valid. Perceived insufficient milk supply occurs in up to 50% of breastfeeding mothers.[22] It is a significant cause of untimely weaning. Perceived milk insufficiency is a common reason for early weaning[27] yet it is rare that a mother would not produce enough milk for her infant. Mothers also perceive that a fussy or crying infant means their infant is not getting enough milk yet those cues are part of normal feeding behaviours and vary by individual infant.[22,27] Supporting mothers to continue breastfeeding through perceived low milk supply "crisis" does increase breastfeeding duration. Remind mothers of the signs that the infant is getting enough milk and feeding cues. Related Standards: **Mother understands the signs that her infant is getting enough breast milk** *and* **Mother recognizes and responds to early feeding cues**
	Infrequent infant bowel movements	Check whether the infant is truly not eliminating within normal guidelines. Check with mother to see if feeding is going well. • empty one breast before offering the other breast • infant gets the fore milk and the calorie rich hind milk • infant is feeding 8 or more times a day • infant is satisfied after feeding Infrequent bowel movement can be an indicator of inadequate energy intake and ineffective breastfeeding. Related Standard: **Infant exhibits normal elimination patterns**
• Mother recognizes factors that may impact the ability to breastfeed	• cleft palate • inconsistent ability to latch and suckle • tight frenulum • multiple births • pacifier/artificial nipple • previous breastfeeding difficulty • birth interventions • separation • persistent breast pain, breast surgery or trauma	When risk factors are identified, appropriate and timely intervention can reduce the likelihood of early weaning.[22] These risk factors can disturb effective breastfeeding but are potentially modifiable. Most breastfeeding issues are amenable to treatment and support. Discuss with the parents that a mother and/or infant that presents with a risk factor seldom means breastfeeding should be discontinued.[22] Referrals are made to the appropriate health care provider and sufficient support for breastfeeding is provided.

Expected Standard	Potential Problem	Information to Parents
• Mother recognizes maternal and/or infant contraindications to breastfeeding and knows what action to take	Incorrect identification of the maternal and/or infant contraindications Chronic or acute disease states exist in mother or infant, jeopardizing health	There are few medical reasons not to breastfeed but the maternal contraindications include certain communicable/infectious diseases, illicit drugs and medications such as radioactive isotopes.[1,5,22,30] Medical conditions may require a mother to stop breastfeeding, depending upon the stage of the condition, the contagion, and/or medical protocol. It is the medical specialist who determines if breastfeeding will be temporarily, partially or fully discontinued, or, if mothers expressed breastmilk is an alternative. **ALWAYS FOLLOW THE RECOMMENDATIONS OF THE MEDICAL SPECIALIST** *Refer the mother to the appropriate medical personnel for assessment, diagnosis, treatment, management and monitoring.* *Due to options currently available in Saskatchewan, if the mother is HIV positive, **commercial infant formula is recommended**. Further information on sexual and reproductive health is available at www.skprevention.ca Mother should receive the support needed to maintain lactation when breastfeeding is temporarily interrupted.[1] Mother may be able to use her own expressed breastmilk in some situations.[5] In some cases and in emergency situations, provided mother has an appropriate referral and supports/ guidance; a mother's own expressed breastmilk might be safely used if it is appropriately pasteurized. Refer to and/ or consult with appropriate specialists. For the infant who cannot, or should not, be fed their mothers own breastmilk, the alternatives are pasteurized human milk from screened donors or commercial infant formula.[1] The option depends on individual circumstances and whether the option is acceptable, feasible, affordable, sustainable and safe as well as appropriate for the particular health concern. Regardless of the option, a mother should always follow the instructions of her medical specialist. **Infant contraindications** to breastfeeding and breastmilk are galactosemia,[1,5,22] congenital lactase deficiency[1] and maple syrup urine disease.[30] For Phenylketonuria (PKU), breastfeeding and a medically prescribed infant formula can be alternated as feeds as long as appropriate blood monitoring and follow up is available.[5,30] Refer mother to a paediatrician or specialist for management for these cases.

Expected Standard	Potential Problem	Information to Parents
		Related Standards: **Safe and sanitary procedures are followed when preparing and storing food and when feeding the infant** *and* **Non-Breastfed Infant NUTRITION – Infant who cannot or should not be fed their mother's breastmilk is offered the appropriate feasible option**
• Infant is exposed to family mealtimes, food and eating experiences but introducing solids is delayed until about 6 months	Solids are introduced before the infant is developmentally ready Infant is excluded from family mealtimes	Early introduction of complementary foods may be associated with adverse health consequences in later life and is not associated with any health benefit.[26] Exclusive breastfeeding is recommended for the first 6 months and complementary foods are introduced when an infant is developmentally ready. There are a variety of reasons parents have for starting solid foods early but, evidence is sufficient to recommend that introduction of solids and other liquids before an infant reaches 12-17 weeks of age be **strongly discouraged**.[11,26,29] Complementary feeding prior to 6 months does not improve growth and it displaces breastfeeding.[52] Infants show interest in food, eating and what others are doing long before they are developmentally ready to eat (lose extrusion reflex, keep food in the mouth, etc.). This exposure, where an infant can observe and experience, is part of learning and builds social skills. Being at the table with family is important. Food exposure is an important part of learning and development for infants. At an early age, infants can see, smell, and touch what the family is eating. From the age of 4-6 months an infant's handling of food as well as exposure to families enjoying food and eating influences their acceptance of foods and food groups later. Infants touching food also educates the immune system and helps build tolerance.[38] Related Section: **Complementary Feeding 6 – 24 months**
• Infant is offered foods rich in iron among the first foods, at about 6 months, while continuing to breastfeed to 2 years and beyond	Solids are introduced before the infant is developmentally ready Inadequate iron intake Iron deficiency anaemia	Offering solid foods too early may increase the risk of diarrhea and gastrointestinal infections and early introduction is not associated with any apparent health benefit.[26] Offering solids early can reduce breastfeeding duration[52] and the benefits associated with longer exclusive breastfeeding for mother and infant. Reduced breastfeeding duration can interfere with mothers post-delivery weight loss and LAM.[52] Infants need iron-rich foods at about 6 months including meat and alternatives and iron-fortified cereals.[1] Parents offer solids when an infant is developmentally ready and is interested, infants get to decide if they eat and how much.

Expected Standard	Potential Problem	Information to Parents
		Signs of readiness at about 6 months are when the infant can sit independently with good head and neck control, has lost the tongue thrust reflex, turn head toward and away from food, and shows real interest in exploring and eating foods.[1,53,58,59] Related Section: **Complementary Feeding 6 – 24 months**
Safe and sanitary procedures are followed when preparing and storing food and when feeding the infant		Related Section: **Non-Breastfed Infant 0–6 Months** for partially breastfed infants on a commercial infant formula
• Expression and storage of human milk meets safety standards	Expression and storage conditions led to infant illness or human milk with poor nutritional quality	Remind mothers of the importance of expressing, storing, and preparing breastmilk for feeds properly. Practice proper hand washing and clean surfaces and preparation area. Clean and sanitize equipment and infant feeding supplies, store in the back of the fridge or freezer[50] (the door is often not cool enough or warms and cools each time the door is opened). Label and date each container.[57] Fresh human milk may be left at room temperature for 3-4[50] or 4-6[22] hours; it is best to ensure very clean conditions when longer times are used. The warmer a room, the shorter human milk should be stored or left at room temperature.[50,57] Human milk can also be stored in the refrigerator at ≤4°C for 3 days (optimal)[50] or 5-8 days under very clean conditions as well as in the freezer at -17°C or colder for 6 months[50] to max 12 months.[22,50,57] Old style fridge freezers, and freezers that are opened frequently have problems keeping consistent temperatures, so storage times may be significantly shorter.[57] Once human milk is slowly thawed, in a refrigerator, it should be used within 24 hours.[22] Safe and sanitary procedures and spaces are also important when away from home. Employers have an obligation to provide suitable space and time for an employee to breastfeed or express breastmilk. **NOTE:** In rare cases the lipase action in human breastmilk begins to breakdown the fat in breastmilk as soon as it is expressed. This can possibly cause flavour changes that affect palatability to an infant.[57] These mothers could pasteurize their expressed breast milk to deactivate that enzyme.[56,57]

Expected Standard	Potential Problem	Information to Parents
• Donor human milk meets safety standards	Sharing of unprocessed and unscreened donor human milk	Breastmilk from screened donors must be properly collected, pasteurized and stored. The only way to ensure this is to obtain breast milk from a milk bank that follows the guidelines set out by the Human Milk Banking Association of North America. Human milk processing in Canada must also adhere to Health Canada regulations for food substances and be inspected regularly by the Canadian Food Inspection Agency (CFIA).[1,2] It is important to understand the procedure for acquiring donor human milk and that access to pasteurized human milk from appropriately screened donors is limited and may not be a feasible option.[1] Health Canada advises Canadians to be aware of the potential health risks associated with consuming human milk obtained from the Internet or direct from individuals. There is a potential risk that the milk may be contaminated with viruses such as HIV or bacteria such as Staphylococcus aureus.[10] Health Canada Advisories are posted on their website.
• Formula for partially breastfed infants is prepared, stored and served using safe and sanitary procedures		Related Section: **Non-Breastfed Infant 0–6 Months** *see standard* **Safe and sanitary procedures are followed when preparing and storing food and feeding infant**
Infant exhibits normal elimination patterns	Inadequate wet diapers and potential dehydration	First urination typically occurs within 8 hours of birth.[22] By day 4, a breastfed infant should have 5 or more wet diapers a day.[22] Urine is clear or pale yellow by 4 days[22] and it has a mild smell. More wet diapers per day may result in a smaller amount of urine per void; after 6 weeks, the number of wet diapers may be less but the amount per void should be larger. Fewer wet diapers indicate the infant may not be breastfeeding effectively or getting adequate intake of breastmilk. It may not mean that the mother has insufficient milk supply but there is a need for breastfeeding attention and support. Consider referral to a lactation consultant. Related to normal elimination: It may also be helpful to review the following standards: **Mother understands the signs her infant is getting enough breast milk** *and* **Mother and child exhibit satisfaction with the feeding relationship** *and* **A quality feeding relationship exists within the context of a supportive family environment**

Expected Standard	Potential Problem	Information to Parents
	Infrequent stooling	Most infants pass meconium, which is dark green or black, within 24-48 hours of birth.[1,51] Stool colour in the first 3 days will vary between light brown, yellow and green and be sticky and gelatinous. Infant should have at least 3 bowel movements each day[22] with the age appropriate colour changes in the first 6-8 weeks; in the time when breastfeeding is established. Colour changes from black and sticky to yellow (light mustard), soft, loose, seedy by day 4. Stool colour of green and brown does occur in breastfed infants.[40] Stool frequency varies widely in the breastfed infant and it decreases with age.[40,51] From 6 weeks to 6 months, an infant should have at least one larger yellow bowel movement every 1 to 7 days. Some infants do go longer than 7 days between bowel movements and it is considered normal stooling; provided the last stool was yellow, soft, and seedy and a moderate to large amount. Breastmilk often leaves little solid waste after going through the digestion. If the infant is growing normally, there is little cause for concern.[1,40] Infrequent stooling may be an indicator of an inadequate intake due to insufficient breastfeeding. Ask about breastfeeding and offer breastfeeding support as needed. It may also be helpful to review the following standards: **Mother understands the signs her infant is getting enough breast milk** *and* **Mother and child exhibit satisfaction with the feeding relationship** *and* **A quality feeding relationship exists within the context of a supportive family environment**
	Infant dyschezia	Infant strains and screams during prolonged attempts to defecate. The condition may occur during the first few months. The cause is unknown. It is hypothesized that an infant cannot coordinate the increased intra-abdominal pressure with a relaxation of the pelvic floor muscles.[18] In dyschezia, a physical and stool exam are normal. Infants will cry in an attempt to create intra-abdominal pressure necessary before they learn to bear down effectively for bowel movement.[40] Infant dyschezia rarely lasts more than 2 weeks and resolves spontaneously.[40]

Expected Standard	Potential Problem	Information to Parents
	Parents' perception of constipation	Remind parents that stool habits vary widely from infant to infant and infrequent stooling does happen.[40] Related problem **Infrequent Stooling** Within normal bowel function there is a range in consistency and frequency of stool. Changes in stool consistency and bowel frequency may occur during the transition from exclusive breastfeeding to partial breastfeeding or to solid foods.[40] This does not last long and regular bowel movement patterns develop. Assess whether infant is breastfeeding well and is receiving an adequate breastmilk intake. Constipation is dry and hard stools that make stooling difficult and painful.
	Constipation	Constipation is hard and dry stool that makes stooling difficult; not necessarily the absence of bowel movements. Infrequent stooling does happen in breastfed infants and is considered appropriate although commonly mistaken for constipation.[1] Constipation is rare[1] in an exclusively breastfed infant but it can be indicative of a medical problem. Constipation that occurs early in life is a special situation. The possibility of organic causes such as Hirschsprung disease, which is a blockage of the large intestine due to improper muscle movement in large bowel (colon), needs to be investigated.[19,20] Constipation may also result from the use of medications.[20] Refer to physician.
	Diarrhea	Diarrhea is common in babies and children and it is usually mild and brief; however, to be safe, contact the appropriate health provider for all infants under 6 months who present with diarrhea.[60] Diarrhea may be caused different things e.g. bacteria, viruses, parasites, medication, adverse food reactions or functional (idiopathic) bowel disorders. The treatment for diarrhea is to replace lost body fluids (made up of water and salts). • Continue to breastfeed as usual.[60] Human milk is digested rapidly, so even the infant with vomiting and diarrhea will absorb some of the fluids and nutrition from breastmilk. • If infant is partially breastfed, continue offering breast milk. Try to increase the frequency of breastfeeding and continue to offer the infant formula normally used.[60] Do not dilute the infant formula.

Expected Standard	Potential Problem	Information to Parents
	Dehydration	Signs of dehydration include decreased urination, increased thirst, no tears, dry skin, dry mouth and tongue, faster heartbeat, sunken eyes, grayish skin, sunken soft spot (fontanelle) on baby's head. Emphasize to parents to avoid giving drinks such as fruit juice or sweetened fruit drinks, carbonated drinks (pop/soda) or sweetened tea, broth or rice water.[60] These have inappropriate amounts of water, salts and sugar and can make diarrhea worse.[60] Offering plain water is also inappropriate and may lead to low sugar or low sodium levels in the infant's blood.[60] Breastfed infants should continue to breastfeed.[1,60] Parents need to consult with physician if the infant has bloody or black stools, still vomiting after 4-6 hours, diarrhea and fever with a temperature higher than 38.5°C (101.5°F), signs of dehydration (above), or lethargy.[60] Canadian Paediatric Society has a position statement with guidelines around taking children's temperature. For children under 2 years, the recommended techniques are 1. rectal and 2. axillary (armpit) with a digital thermometer (not a mercury based one).[32] In extremely rare cases, diarrhea and vomiting may be symptoms of the metabolic disorders that make human milk unsuitable for the newborn. See a physician.
Mother and family have access to enough healthy foods	Mother's diet does not provide nutrients needed to support her health	Food choices based on Canada's Food Guide provide adequate calories that help maintain a good breast milk supply. Emphasize the special importance of a varied diet.
• Vegetarian mothers have adequate access to nutrient rich foods	Iron deficiency Vitamin B12 deficiency	Liberal vegetarian diets that include some animal foods – such as dairy and eggs – generally provide sufficient nutrients. If there are doubts about the quality of the maternal diet, refer the mother to a dietitian for consultation. Mothers who follow a strict vegetarian or vegan diet will likely require vitamin B12 supplementation. Refer to a physician and dietitian.
• Mother of an infant at high risk for atopy receives the support needed	Mother is restricting foods in her diet	It is important a mother does not restrict her diet unnecessarily.[29] Few infants are affected by food a mother eats.[22] There is insufficient scientific evidence that a lactating woman should avoid eating potentially allergenic foods to prevent allergy in her infant.[29] However, a mother should avoid those foods to which she has a diagnosed allergy[10,29] or that her infant has a diagnosed allergy.[29]

Expected Standard	Potential Problem	Information to Parents
		It is important to ensure that breastfeeding is not prematurely discontinued and that appropriate nutritional support is available to the mother and infant. If a mother eats food that seems to affect her breastfed infant, she should seek specialized services to determine whether food avoidance or a food challenge trial is necessary. Refer to an allergist or paediatric dietitian. An infant at higher risk for developing atopy (i.e. allergy) has a biological parent or sibling with a diagnosed atopic disease such as asthma, eczema, hay fever and food hypersensitivity.[10,29] The infant with a risk factor may be more susceptible to atopy, but factors are not specific or sensitive enough to predict atopy.[25] **NOTE:** Lactose intolerance is not common and is not an atopic disease (allergy). Related Section: **Complementary Feeding**. Related Standard: **A child with a risk of atopy or with suspect food sensitivity receives counseling as medically indicated**
• Mother's weight loss does not exceed normal losses of more than 2 to 4 lbs per month	Weight loss exceeds normal healthy loss. *A rapid weight loss may indicate medical or mental health issues (eating disorder or post-partum depression)*	Mothers should eat to their hunger; eat a variety of foods and drink to satisfy thirst.[22] The mother's diet should ensure adequate vitamins and fatty acids for optimal levels in her breastmilk.[22] Variety and sufficient calories are important as the requirements for calories, protein, folate, etc. are higher during lactation.[22] Rapid weight loss can potentially lead to fatigue and early weaning. Rapid weight loss may also affect a mother's milk supply.[1] Help the mother identify issues and arrange for counseling and medical support as needed.
• Income and family resources are sufficient to provide food security for the whole family	Poor food choices related to: • economic hardship • cultural beliefs • medical conditions	Exclusive breastfeeding for the first 6 months is an important guarantee of food security for the infant and family. Infant formula can cost $65.00 to $300.00 per month depending on the brand for the first 3 months and $135.00 to $447.00 per month from 4-12 months. Food security means having access to enough healthy foods without a difficult time meeting other family needs. Income is a determining factor. A family suspected of being food insecure should be connected to community resources and/or local food security initiatives. Many municipalities have food security organizations, programs and/or emergency assistance such as the food bank. Larger urban agencies include: Saskatoon: CHEP Good Food Inc. www.chep.org Regina: Regina Education & Action on Child Hunger www.reachinregina.ca Prince Albert: Smart Families Food Co-op www.pafoodbox.ca

Expected Standard	Potential Problem	Information to Parents
Mother and infant take only recommended supplements as appropriate.	Infant exposed to unsafe substances Breastmilk intake is being supplemented	Over-the-counter drugs, medications and herbs taken by the mother or given to the infant potentially increase health risks. Dietary supplements and altering breastmilk without the advice or monitoring of a physician, pediatric dietitian or other qualified health professional may increase health risks. Clinical guidelines for supplementation of pre-term infants (post-discharge criteria) are determined by hospital clinicians and mothers typically have the treatment plan.
• Mother achieves and maintains an adequate Vitamin D status	Vitamin D deficiency	Mothers should consult with their physician regarding supplemental Vitamin D for herself. Foods to include for Vitamin D are salmon, eggs, margarine and cow milk. In northern Saskatchewan, walleye, lake trout and white fish are also good sources of Vitamin D; white fish is lowest in mercury. Adequate Vitamin D in a mother's diet is important because if she has sub-clinical Vitamin D deficiency, then her infant will be born with limited stores of Vitamin D.[12] Breastfed infants get some Vitamin D from mother's breastmilk but her Vitamin D levels depend on her Vitamin D intake from foods and supplements. **NOTE:** Infant born to a mother who is dark skinned, an immigrant, has high parity, short duration between her pregnancies, avoids milk, and/or with limited access to sunlight is at greater risk for Vitamin D deficiency.[12]
• Infant receives adequate Vitamin D	Vitamin D deficiency or excess	Health Canada recommends that all breastfed and partially breastfed, healthy term infants in Canada receive a 400 IU Vitamin D supplement daily.[1,5] **NOTE:** The Canadian Pediatric Society recommends a total Vitamin D intake of 800IU from all sources (food** and supplements) from October to April for those living above the 55th parallel. That recommendation is also for those living between the 40th and 55th parallel **IF** they have other risk factors: e.g. not exposed to enough sunlight or those that have darker skin.[12] *** for this age, food would mean breastmilk* Infants who may have insufficient Vitamin D intake or who may be at high risk for deficiency should be referred to and assessed by their physician.
	Infant aspirates	Medication comes in a variety of forms, dosages, and serving sizes. Choose the form that works for that mother and infant pair. Some babies may find Baby D drops® easier to use – as one drop (400 IU) can be put directly on the breast nipple before a feed.

Expected Standard	Potential Problem	Information to Parents
• Infant achieves and maintains an adequate iron status	Iron deficiency anaemia or excess iron	Iron deficiency anaemia and excess iron can have irreversible impact on cognitive and psychomotor development. Mother should not supplement without a physician recommendation and treatment follow up. Medicinal drops may be needed in first 6 months, for some infants, depending on the risk for deficiency.[52] Infant born at less than 3000 g (low birth weight[52]); pre-term infant (< 37 weeks gestation); infant born to iron deficient mother[52], mother with diabetes or mother who consumed excess alcohol during pregnancy are at a higher risk for iron deficiency.[1] Infant should be assessed for iron status by a physician first.
• Infant receives probiotics only when medically indicated	Altered gut flora	Remind parents that breastmilk contains all the probiotics (and prebiotics) an infant needs. These natural breastmilk compounds cannot be duplicated and those that are advertised as being in commercial infant formula or supplements are not identical to the compounds found in human milk. Probiotics have a good safety profile and there are generally no adverse side effects from their use.[14,15] Probiotics appear to be beneficial for specific health concerns in infants – provided that the proper strain, product selection and dosing guidelines of commercial products are followed.[16,17,33] Probiotics are strain-disease specific.[33] More research is needed to determine the best dose, strain and duration for a specific use or disease. There may be some benefit in treating antibiotic-associated diarrhea and necrotizing enterocolitis but the role of probiotics is unproven.[33] Although there is generally no adverse effects from probiotics, immunocompromised patients have shown systemic and local infections caused by some probiotics.[33] Advise parents to consult with a paediatrician and appropriate specialist.

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Assessment *for* Non-Breastfed Infant 0-6 Months

Feeding Relationship p. 57

Mother and child exhibit satisfaction with the feeding relationship

- Mother understands the benefits of skin to skin contact
- Mother recognizes and responds to early feeding cues from the infant
- Mother is responsive to feeding cues during nighttime as well as daytime
- Mother knows how to wake a sleepy infant
- Mother indicates the infant is held for feeding
- Mother understands that excessive crying can be a normal part of child development

A quality feeding relationship exists within the context of a supportive family environment

- Parents make adjustments to reduce their infant's exposure to lifestyle risk behaviours

Parents have access to other supports including specialized counseling

- Mother suspected of postpartum depression receives the appropriate referral and management
- Mother dealing with trauma or violence is aware of resources she can access

Growth & Development p. 63

Infant growth is progressing normally

Growth pattern tracks parallel to the 50th percentile over time and falls between the 3rd and 85th percentiles

Weight loss for non-breastfed babies should be no more than 5% of birth weight

Infant exhibits age appropriate development as it pertains to feeding

Nutrition p. 66

Infant is exclusively breastfed for 6 months with continued breastfeeding for up to 2 years and beyond *Breastfed Infant 0-6 Months*

Mother not exclusively breastfeeding is supported to ensure infants nutritional well-being

- Mother of partially breastfed infant is supported to maintain or improve lactation
- Infant who cannot or should not be fed their mother's breastmilk is offered the appropriate feasible option
- Infant is receiving a commercial infant formula that meets their nutritional needs
- Infant is receiving commercial infant formula in the proper concentration
- Infant is receiving the quantity of commercial infant formula which best meets needs
- Infant is exposed to family mealtimes, food and eating experiences but introduction of solids is delayed until about 6 months
- Infant is offered foods rich in iron among the first foods offered at about 6 months and continues with commercial infant formula until 9 to 12 months of age

Water used in preparation of infant feeds meets current safety standards

- Cool water that has been previously boiled is used in the preparation of infant formula that requires dilution.

Safe and sanitary procedures are followed when preparing and storing food and feeding the infant

Infant exhibits normal elimination patterns

Mother and family have access to enough healthy foods

- Vegetarian mothers have adequate access to nutrient rich foods
- Mother of an infant at high risk of atopy receives the support needed
- Mother's weight loss does not exceed normal losses of more than 2-4 lbs per month
- Income and family resources are sufficient to provide food security for the whole family

Mother and infant take only recommended supplements as appropriate

- Mother achieves and maintains an adequate Vitamin D status
- Infant receives adequate Vitamin D
- Infant achieves and maintains an adequate iron status
- Infant receives probiotics only when medically indicated

Expected Standard	Potential Problem	Information to Parents
The Division of Responsibility is a key piece of the feeding relationship. Parents are responsible for **what** is offered. Infants get to decide **how much** and everything else – **when** to eat and **whether** they eat. Parents choose breastmilk and/or infant formula (*the what*) and help the infant be calm and organized, then feed while paying attention to information coming from the infant about timing, tempo, frequency and amount. Fundamental to parents' jobs is to trust their children to decide *how much* and *whether* to eat. If parents do their jobs with *feeding*, children will do their jobs with *eating* and learn to become competent eaters. www.ellynsatterinstitute.org		
Mother and child exhibit satisfaction with the feeding relationship	Mother has concerns about feeding	Discuss parental concerns. Offer guidance and support so feeding goes well. Many factors can affect the feeding relationship. Remind parents it takes time for mothers and infants to learn from each other and develop attachments. **NOTE:** If mother indicates infant does not feed well or the infant's growth is not trending well or infant is fussy, or either appears stressed, ask mom about feeding cues and the feeding experience; provide guidance and assistance as required. See the potential problems in this section listed below.
• Mother understands the benefits of skin to skin contact	Feeding is not going well Attachment and bonding issues	Ask the mother about her birthing and breastfeeding experience and if she had skin-to-skin time in hospital with her infant. Skin-to-skin helps the mother-infant bond. Would mother like to try re-lactation? Ask if infant has skin to skin time at home. Encourage mother to feed skin-to-skin.[4] It enhances maternal positive feelings, mother-infant bonding and attachment. **NOTE:** It is important that health professionals acknowledge and respect cultural and traditional practices around skin to skin contact.
• Mother recognizes and responds to early feeding cues from the infant	Mother misinterprets feeding cues Infant appears stressed with feeding Mother led feeding	Early feeding cues are: sucking movements and sounds, hand to mouth movements, rapid eye movement, restlessness, soft cooing or sighing sounds.[2,4] Some signs may be more discrete such as squirming or blinking. Recognizing and responding to early feeding cues can help create a clam, low stress feeding experience for both mother and infant. Mother pays attention to information coming from her infant about timing, tempo, frequency, and amount.[1] Cue-based feeding (feeding in Operational Definitions) as opposed to scheduled or timed feeds, accommodates a wide range of infant feeding patterns.

Expected Standard	Potential Problem	Information to Parents
		Infants' appetites go up and down based on growth and growth is variable. During a growth spurt, an infant may seek more nourishment but not feed much when growth rate is down. Advise parents to focus on infant cues and not to feed on a schedule. An infant's stomach is small and they may feed frequently day and night. As they grow, their stomachs can hold more so they develop more regular feeding patterns. Mother-led feeding ignores an infant's inherent ability to show hunger and fullness; affecting infant eating and food behaviours.[47] Advise the parents to focus on infants cues and not on how full or empty a bottle is. Health professionals can help parents understand Division of Responsibility and parenting style.[1]
	Feeding is initiated when baby cries	Crying is a late feeding cue.[2] Waiting to feed until an infant cries may make the infant too anxious to feed or feed well. Crying and anxiety makes feeding stressful for infant and mother. An infant must be calm to feed well.
	A pacifier is used • Delayed feedings • Scheduled feedings	A pacifier is not a substitute for feeding. Regular use of a pacifier may interfere with cue-based feeding leading to reduced intake of infant formula and poor weight gain or weight loss. Infants have small stomachs and need to feed often day and night; on demand. Infant formula fed infants still need to feed frequently (8 + times) to maintain growth trends. The volume of formula taken at each feeding will vary with age, health and appetite. The dietitian and public health nutritionist has information on how much formula an infant feeds in a day on average (24 hours). Using a pacifier does not satisfy the infant's need for feeding, being held or for skin-to-skin contact.
• Parents are responsive to feeding cues during nighttime as well as daytime	Expect the infant to sleep through the night Infant separated from mother during night Scheduled feedings Baby is put to bed with a bottle	Cue-based feeding and a responsive parenting style positively affect infant growth and satisfaction with feeding. Remind parents that: • feeding during the night is important to keeping an infant gaining weight • infants who room-in with their mothers have more opportunities to feed • rooming-in also reduces the risk of SIDS[43]

Expected Standard	Potential Problem	Information to Parents
		Discuss with the mother what makes a safe sleeping environment. The Canadian Paediatric Society provides information on risks and safety of a variety of factors related to sleep environment.[43] Remind parents that responding to a nighttime feed is holding and feeding baby, not putting baby to bed with a bottle. The baby should be held close and securely during feeding but still allowed room to wiggle. Once the baby shows he is full or she falls asleep, the bottle should be removed. Leaving a feeding bottle with baby during sleep, day or night, allows the formula to pool in the mouth, which increases the risk of early childhood tooth decay.[4,6] Related problem: **pacifier is used** Related Standards: **Mother recognizes and responds to early feeding cues from the infant** *and* **Mother knows how to wake a sleepy infant**
• Mother knows how to wake a sleepy infant	Infant does not achieve birth weight within 10-14 days of age Infant is not gaining weight Infant sleeps through the night	Infants need to feed 8 or more times a day (nighttime as well as daytime) to ensure an adequate energy intake for healthy growth and development. Some infants need help to wake and other infants might sleep as a way to cope with discomfort, over-stimulation, and hunger.[2] An infant who sleeps for more than 4 hours at a time may need to be wakened to feed; once the infant establishes a pattern of weight gain and reaches birth weight, parents should respond to their infant's feeding cues.[3] Discuss with mother what the usual sleep/wake patterns are of infants and what her infant's patterns are and the relationship to growth. Infants have several sleep states – deep sleep, light sleep, drowsy, quiet alert, fussy or active alert and crying. It is easiest to initiate feedings when the infant is in the drowsy, quiet alert, or active alert state.[2] Infants feed best when their cues, rather than mother's schedule, set the frequency and pace and when they are calm. Strategies to wake an infant are: remove blankets, change the infant's diaper, place the infant skin-to-skin, massage the infant's back, abdomen, or arms and legs.[2]

Expected Standard	Potential Problem	Information to Parents
		Room sharing – not bed sharing – (Operational Definitions) facilitates attachment and can help both mother and infant respond to feeding cues to ensure infant feeds well and often. It also provides reassurance and comfort for the infant as well as helps the infant fall asleep more easily after feeding. Discuss with the mother what makes a safe sleeping environment. The Canadian Paediatric Society provides information on risks and safety of a variety of factors related to sleep environment.[43] Assess for potential problems if a mother notes her infant is sleepy, sleeps through the night, there are concerns with weight gain or infant sleeps in a separate room. Offer guidance as required to ensure appropriate weight gain and growth trends. Related Standards: **Parents are responsive to feeding cues during nighttime as well as daytime** *and* **Mother recognizes and responds to early feeding cues from the infant**
• Mother indicates that the infant is held for feeding	Infant is fed with a propped bottle	Holding baby close and securely during feeding but still allowing room to wiggle, is linked to positive development.[1] Encourage parents not to prop bottle when feeding. Feeding with a propped bottle increases the danger of choking or aspiration because the flow of milk into baby's mouth may be too rapid.[4] Ear infection is more common in bottle-fed infants especially if the baby is fed with a propped bottle or put to bed with a bottle.[5] Infants fed with a propped bottle are at greater risk of early childhood tooth decay.[4,6]
• Mother understands that excessive crying can be a normal part of child development	Perception of excessive crying, colic and purple crying as "abnormal"	Excessive crying or colic can be a normal syndrome of infancy;[41] reassure parents it does self-resolve.[4,41] For an infant, crying is one form of normal self-expression that is usually, not always, associated with hunger, fatigue or discomfort. Colic in infants is defined as excessive crying in an otherwise healthy and thriving baby. A period of longer, stronger, and unexplained crying that typically begins when infants are about 3 weeks old, peaks in intensity around 6-8 weeks and tends to decrease by the age of 4 to 5 months,[4] although it can last longer. Excessive crying is defined as crying that lasts at least 3 hours a day, for 3 days a week, for at least 3 weeks. New information suggests this period of intense crying is a normal part of baby's development. Some babies cry much longer and more intensely than others; a period of 'purple crying'. (see Operational Definitions[14,46])

Expected Standard	Potential Problem	Information to Parents
		Although excessive crying may be normal, it is good practice to ensure there are no underlying physical or medical issues with the infant (e.g. a secondary sign of a milk protein allergy[41]) OR mental/emotional health issue with the mother. Refer a mother to the appropriate health provider to ensure appropriate nutritional support.[41] **NOTE:** Changing infant formula as an intervention to deal with issues like crying, gas, spitting etc. should be avoided;[60] nutritional interventions have no benefit on infantile colic.[41] Some feeding issues that affect an infant include: taking in too large a volume of formula (remind parent of infant stomach size) or large nipple size or hole. An infant that is held for feedings is generally calmer than those fed a propped bottle.
A quality feeding relationship exists within the context of a supportive family environment		Include all family members (father, partner, siblings, grandparents, aunts, caregivers etc.) in infant feeding education. Knowledge, attitudes and cultural or generational beliefs and practices may or may not support infant feeding recommendations. Support of others including family, friends and other mothers provides reassurance. Support also helps to overcome feelings of isolation and being tied down.[4] Fathers (or other family members) can be responsible for other caring and household tasks. This work sharing can offer the mother time and space to feed.
• Parents make adjustments to reduce infant's exposure to lifestyle risk behaviours	Smoking Alcohol Illegal drugs	Remind parents that smoking, alcohol and drugs (including medications) can affect an infant's health.[54] These are also risk factors for safe room sharing with infants.[43] Canadian Centre on Substance Abuse has harm reduction guidelines for alcohol consumption.
Mother has access to other supports including specialized counseling		Support or counselling may be for a variety of concerns such as lactation, nutrition, atopy, postpartum depression and workplace accommodation. Referrals to support and counseling services for parents, infants and families can be made by the health provider. See: **Guide to Referral Resources**

Expected Standard	Potential Problem	Information to Parents
• Mother suspected of postpartum depression receives the appropriate referral and management	Symptoms of postpartum depression are not recognized: • crying for no apparent reason • emotional numbness • feeling of helplessness • frightening thoughts or fantasies • over-concern for baby • anxiety or panic attacks • sleeping problems • changes in appetite and weight • depression that may range from sadness to thoughts of suicide • difficulty concentrating • difficulty making decisions	Postpartum depression is more than a temporary feeling of sadness or lack of energy – it is a medical condition that develops sometime in the first several months after childbirth. Early treatment is important for the mother, baby and family. Depression can negatively affect infant-feeding outcomes[44] so the sooner a treatment is started, the more quickly the mother and infant recover and the less infant development will be affected.[7,44] The infant of a depressed mother can become less attached to their mother and lag behind developmentally in behaviour and mental ability.[7] Postpartum depression is not the baby blues. Baby blues peaks 4 days after delivery and resolves by day 10 with weepiness, irritability, and anxiety but without an effect on a mothers ability to function as seen in postpartum depression.[7] The Edinburgh Postnatal Depression Scale is a tool to screen for potential antenatal and postpartum depression. Help the mother identify issues and needs and arrange for counseling and medical support to ensure access to services. Connecting the mother to other supports such as parent groups and family centres may help with isolation and depression.
• Mother dealing with trauma or violence is aware of resources she can access	Mother is dealing with trauma or danger of violence	Mother may need supportive medical, legal and mental health advice. Mother is provided information about Safe Houses and other community supports.

Expected Standard	Potential Problem	Information to Parents
For more information about the WHO Growth Charts and the evidence summary and appropriate interpretation, refer to www.whogrowthcharts.ca (Dietitians of Canada). Dietitians of Canada hosts an orientation package (five training modules & related resources) for monitoring growth in infants and children using WHO growth charts in Canada.		
Infant growth is progressing normally Serial measurements of weight and length and head circumference are measured, recorded and plotted on the appropriate WHO growth chart[4,48,49] weight-for-age length-for-age weight-for-length head circumference-for-age • Parental height is recorded • Record infant age in years/ months/days; plot to nearest completed ½ month • Cut-off criteria using WHO charts Equipment should be standardized regularly as per health region protocols. Infants born < 37 weeks gestation are age adjusted before plotting.[42] Adjusting age should be done until the infant is at least 24 months.	Inaccurate assessment of growth[50] due to: • Missing measurement(s) • Inaccurate measurement(s) • Inaccurate recording and/or plotting • Inappropriate equipment • Key information relevant to interpretation and assessment is missing	Let parents know you assess an infant's growth pattern based measures plotted on growth charts. Explain importance of trend over time and the related information that provides context for the charts or what is seen in the charts. The goal is not for infants to be at the 50th percentile[48,49] it is the trend or direction on the curve that is important. Advise parents that it is important to look at patterns of growth rather than any one single measurement. Regular measurements (serial measures) are required to be able to assess growth.[4,48] One measure does not provide enough information on how an infant is growing.[48,49] A measurement taken at any one time only describes an infant's size at that point in time. When measurements at only one time point are available **weight for length** gives more information overall (speaks to growth proportion) and help parents understand whether the infants' size is within or outside an expected range.[49] An infant's growth trend indicates successful feeding; i.e. frequency and amount.[4] Following growth is essential to detecting nutritional inadequacies or underlying disease.[50] An infant who is not trending well needs to be assessed (anthropometric, growth potential, history, physical exam, development, feeding relationship, and family dynamics)[50] and may require assessment from several health specialties.

Expected Standard	Potential Problem	Information to Parents
Growth pattern tracks parallel to the 50th percentile over time and falls between the 3rd and 85th percentiles **NOTE:** Infants born at a low birth weight are expected to track parallel to the 50th but on the lower percentiles **NOTE:** Crossing a percentile for **both** weight and length may be normal for the first 2 to 3 years.[50] Crossing percentiles is called channel surfing.[48,49,51] When the change in weight and length is similar, the child may be moving toward their genetic potential.[50] Further assessment is needed to rule out other reasons for any change in growth. **NOTE:** Formula fed infants tend to grow more slowly in the first 4-6 months and more quickly after 4-6 months compared to breastfed infants.[49,50,51] Assess pattern of weight, linear growth, and the ratio of weight-length as well as whether infant is breast or non-breastfed before suggesting changes in feeding.[49,51]	Growth falls outside expected range (3rd – 85th) Head circumference outside expected range Sharp rise or fall in weight or length Growth curve is flat	When a child's growth or single indicator is outside of expected range, re-measure, verify age and re-plot. Recheck all measures together to ensure accurate numbers and interpretation.[50] Offer parents anticipatory guidance, support and appropriate referral if there are concerns. Advise parents that infants who grow outside of the 3rd to 85th percentiles but track parallel to the 50th percentile may be growing normally for them. More information is needed, especially in relation to parental size, medical and developmental issues, feeding relationship, and adequate nutrient intake in relation to iron and Vitamin D.[48] Interpretation of infant growth should include clinical, developmental and behavior assessment as well as breastfeeding; consider all factors along with gestational age, birth weight, and acute or chronic illness.[4] An increase or decrease in growth may be an expected result from an issue such as catch up growth after illness, change in feeding practice or overfeeding, weight loss from illness, however; to prevent potential growth disturbances, any change should be reviewed and assessed. All changes in weight or length must be investigated.[48,50] Assist parents in identifying issues or concerns they may have about their infant's growth and/or feeding relationship. Identify medical and/or developmental issues. Once all information is available, based on the assessment:[50] • reinforce that the infant is growing and developing well • assist parents in understanding the need for additional observation and monitoring or connect them with appropriate support or referral as needed Referral may be needed if: • Growth is less than 3rd percentile or greater than the 85th percentile • Weight-for-length is greater than the 97th percentile (further assessment recommended)

Expected Standard	Potential Problem	Information to Parents
		Referral is appropriate if: • Infant's head circumference for age is below the 3rd percentile or above the 97th percentile • There is a sharp upward or downward growth trend over a short period • There is a consistent flat growth trend • There is a questionable growth trend with red flags related to medical concerns of mother or child, development, feeding relationship and/or nutrition **NOTE:** Percentile lines < 3rd and > 97th are not on all growth charts and are only included if relevant to a particular age. Growth < 0.1st percentile or > 99th are criteria for severe wasting/underweight and obesity/severe obesity respectively these criteria are NOT diagnostic.[41,42] Refer to clinician. www.whogrowthcharts.ca
Weight loss for non-breastfed babies should be no more than 5% of birth weight • By 10-14 days regain to birth weight	Infant loses ≥10% of birth weight Infant does not gain at least 20 g/day Infant does not regain birth weight by 14 days	Advise parents of expected weight loss and gain during the first weeks of life. Stool frequency is an indicator of adequate infant formula intake; expect a non-breastfed infant to have, on average, 4 or more stools a day (minimum 3) during the first week and 2 a day by 4 months. Encourage parents to come in for regular weight monitoring so that potential growth faltering or poor feeding can be addressed early. Parents may need guidance on the appropriate amount of infant formula to feed, infant led feeding and cues, or other supports to ensure a happy healthy feeding relationships and adequate nutrition. Related Standard: **Infant exhibits normal elimination patterns**
Infant exhibits age appropriate development as pertains to feeding	Infant does not reach expected developmental milestones	Discuss having infant included at the family table during mealtimes about the age of 3-4 months. This begins to build social skills and can increase food acceptance later. (Food exposure – Operational Definitions) Related Standard: **NUTRITION Infant is exposed to family mealtimes, food and eating experiences but introduction of solids is delayed until about 6 months**

Expected Standard	Potential Problem	Information to Parents
Infant is exclusively breastfed for 6 months with continued breastfeeding for up to 2 years and beyond	Decreased immunological benefits leading to decreased protection against gastrointestinal infections	Exclusive breastfeeding for 6 months provides the infant with optimal nutritional, emotional and immunological benefits. Human milk provides all of the fluid and nutrients needed for normal infant growth.[2] Formula fed infants do not receive the immunological benefits of breast milk.[4] There is a process to induce lactation, for mothers who adopt for example, should they wish to breastfeed. It is possible to re-lactate if breastfeeding was discontinued. These are options for the mother and, if she wishes to proceed, refer to a lactation consultant. When feeding at the breast is not possible, the first choice is to feed breastmilk from the infants own mother. When an infant is partially breastfed, a mother is supported to maintain or improve lactation.[4] Refer as required. Related Section: **Breastfed Infant 0-6 months**
	Atopy	Remind parents that for infants at high risk of developing atopic disease there is evidence that exclusive breastfeeding for at least 4 months decreases the incidence of atopic dermatitis and cow milk allergy in early childhood.[8]
Mother not exclusively breastfeeding is supported to ensure infant's nutritional well-being		
• Mother of partially breastfed infant is supported to maintain or improve lactation	Untimely weaning	Hand expression instructions are available in a variety of handouts. If assistance is needed to adequately learn the technique for hand expression, refer the mother to a Lactation Consultant, breastfeeding clinic or mother-to-mother support group. Advise parents if breastfeeding pumps are available for loan.
• Infant who cannot or should not be fed their mother's breastmilk is offered the appropriate feasible option	Sharing of unprocessed and unscreened donor human milk	**If available and appropriate, preferred infant feeding is as follows:** • breastfeeding • expressed breastmilk • donor human milk • commercial infant formula Access to pasteurized human milk from appropriately screened donors is limited in Canada, commercial infant formula may be the most feasible option.[4] The option depends on individual circumstances.

Expected Standard	Potential Problem	Information to Parents
		Breastmilk from screened donors must be properly collected, pasteurized and stored. The only way to ensure this is to obtain breast milk from a milk bank that follows the guidelines set out by the Human Milk Banking Association of North America. Processing of human milk in Canada must also adhere to Health Canada regulations for food substances and be inspected regularly by the Canadian Food Inspection Agency (CFIA).[4,11] Health Canada advises Canadians to be aware of the potential health risks associated with consuming human milk obtained from the Internet or direct from individuals. There is a potential risk that the milk may be contaminated with viruses such as HIV or bacteria such as Staphylococcus aureus.[10] Health Canada Advisories are posted on their website. Related Standard: **Breastfed Infants NUTRITION – Mother recognizes the maternal and/or infant contraindications to breastfeeding and knows what action to take**
• Infant is receiving a commercial infant formula that meets their nutritional needs	Parent chooses a formula other than recommended for age or health	**A regular cow milk-based commercial infant formula is the standard for feeding healthy term infants who are not breastfed, or, who do not have access to screened, pasteurized, donor human milk.[4]** A regular cow milk-based commercial infant formula is recommended for healthy term infants. Other formula is recommended only for medical purposes or cultural and religious reasons as indicated. Formula changes are not necessary for most of the common feeding issues in infancy such as colic and reflux (spit up).[4] There is no indication for use of follow up formula at 6 months, and it does not offer nutritional advantages over regular cow milk-based infant formulas. Infant formulas may contain a number of nutritive substances that are not required under the Food and Drug Regulations. These substances are found in breast milk but when added to infant formula, they may not have the same nutritional effect as when a constituent of breast milk.[4] The infant formula chosen must be appropriate for an infant as well as prepared and stored safely to reduce the risk of illness.[4] Related Standard: **Safe and sanitary procedures are followed when preparing and storing food and feeding the infant**

Expected Standard	Potential Problem	Information to Parents
	Insufficient iron or iron deficiency anaemia	Infants with a birth weight of less than 3000 g; preterm infants less than 37 weeks gestation; infants born to iron deficient mothers, mothers with diabetes or mothers who consumed alcohol during pregnancy[4] may require additional iron as prescribed by the physician. Refer as necessary. Infants fed homemade formula using evaporated milk, cow milk or goat milk are at higher risk of iron deficiency. Homemade formulas are not recommended.[4] Infant formulas currently on the market contain 4 mg to 12.2 mg/L iron. Choosing a formula fortified to the maximum level may be more appropriate for an infant with low iron stores or at risk of iron deficiency.[4] Refer to physician for determining iron status.
	Adverse food reaction Atopy risk	Formula fed infants who are at high risk of developing atopic disease, may benefit from the use of a hydrolyzed formula compared with cow milk-based formula. Not all hydrolyzed formulas have the same protective effects. Extensively hydrolyzed casein formula may be more effective than partially hydrolyzed 100% whey protein formula.[4,8,9] Risk factors for atopy include having a biological parent or sibling with a diagnosed atopic disease such as asthma, eczema, hay fever and food hypersensitivity.
	Inadequate intake of • iron • folic acid • essential fatty acids • protein Excess intake of manganese Electrolyte imbalances	Using any beverage other than commercial infant formula (including organic and/or homemade) is not recommended. These put an infant at risk for poor growth. Soy, rice, almond and other vegetarian beverages, whether or not they are labeled as “fortified”, are not appropriate alternatives to breastmilk or infant formula. There are no minimum requirements for total fat or protein in milk alternatives and vegetarian beverages. Vegetarian beverages, other than soy, contain virtually no protein. If used as a whole or major source of an infants nutritional intake may result in growth and development issues e.g. rickets, kwashiorkor and/or failure-to-thrive.[4,13] Low protein and/or fat levels and excess manganese is associated with the intake of fortified plant based beverages.[13] Evaporated milk (whole cow or goat milk) is not recommended for infants under 9 months of age.[4,12] It is not nutritionally adequate. Nutrient deficits increase risks of iron deficiency anaemia and impaired neural development. In situations where screened, processed human milk or commercial infant formula is not available and evaporated milk is the only option:

Expected Standard	Potential Problem	Information to Parents
		• specific recipes need to be used for preparation of the "formula" • vitamin/mineral supplementation is required **See a paediatric specialist** Whole cow or goat milk is also not recommended.[4,13] • Fluid cow milk is low in iron and there is an increased risk of iron deficiency. • Goat milk is low in folate and high in protein. Anemia (folic acid deficiency) and electrolyte imbalances are associated with goat milk intake in infants less than 1 year of age.
	Feeding difficulties	Discourage the practice of constantly switching formula as a remedy for "spit up". Regurgitation is common due to the immaturity of the gastro-esophageal sphincter mechanism. To reduce spitting up suggest: burping the infant every 3 to 5 minutes while feeding; avoid laying the baby down right after feeding; and avoid putting the baby in a seat or swing right after feeding as it increases pressure on the stomach.[14] In healthy infants, formula changes and thickened formula is not necessary and not recommended.[4] Adding infant cereal to formula as a homemade thickened product is also not recommended. The effect of starch on the gut and immune system of infants is complex. Infants who present with reflux and complications such as vomiting, esophagitis, or occult blood loss may have gastroesophageal reflux disease (GERD). GERD may be associated with a cow's milk protein allergy.[15,16] Refer the infant to a physician. Switching formulas as a remedy for colic is unnecessary as feeding changes do little to manage colic.[4] Infants with colic have periods of irritability, fussiness, or crying that start and stop without obvious cause and with no evidence of failure to thrive.[4] Cuddling, rocking, stroking and massage are ways to soothe an infant. Provide counseling and encouragement to parents and check they have sufficient supports. Related Standard: **Mother understands that excessive crying can be a normal part of child development**

Expected Standard	Potential Problem	Information to Parents
• Infant is receiving formula in the proper concentration	Parent or caregiver using water to increase fluid intake or replace a formula feeding Weight faltering	Remind parents that an appropriate infant formula, mixed as on the package label, will meet their infant's normal fluid requirements. Fluid requirement for infants up to 6 months is 120 mL/kg/day, which is met with typical infant formula intake over a day. Diluting formula or using water to replace a feed would lead to an infant not getting the energy or nutrition required for growth and development.
	Excessive or Inadequate nutrient intake • High renal solute load • Formula mixed using less water than manufacture recommends may result in dehydration due to excess sodium intake (hypernatremic dehydration) • Formula mixed using more water than manufacturer recommends may result in insufficient calories, protein, fat, vitamins, or minerals	Emphasize the importance of carefully following mixing instructions on label of the formula package to prevent over or under dilution. Powder and concentrate formula are prone to mixing error.[17] • for concentrated infant formula be sure to follow directions for dilution. • for powdered infant formula be sure to use the scoop provided in the package and follow directions re: packing and leveling the scoop.
• Infant is receiving the quantity of formula which best meets needs	Excessive or inadequate energy/ nutrient intake due to volume and/or frequency of feeds	Remind parents about responsive feeding and to allow their infant's appetite to be the guide for the amount of formula to provide (cue-based feeding). Infants should not be encouraged to empty the bottle.[4,14] Individual infants vary in their formula needs depending upon size and metabolism. The quantity of formula consumed in a day over the first 6 months ranges from 410 to 1150 mL (14-39 oz) as infants grow. Energy intake is considered adequate if the infant is growing appropriately as measured by growth standards.

Expected Standard	Potential Problem	Information to Parents
• Infant is exposed to family mealtimes, food and eating experiences but introduction of solids is delayed until about 6 months	Infant is excluded from family mealtimes Solids are introduced before the infant is developmentally ready	Early introduction of complementary foods may be associated with adverse health consequences in later life and is not associated with any health benefit.[56] Exclusive breastfeeding is recommended for the first 6 months and complementary foods are introduced when an infant is developmentally ready. There are a variety of reasons parents have for starting solid foods early but, evidence is sufficient to recommend that introduction of solids and other liquids before an infant reaches 12-17 weeks of age be **strongly discouraged**.[42,56,55] Infants show interest in food, eating and what others are doing long before they are developmentally ready to eat (lose extrusion reflex, can keep food in the mouth…). This exposure, where an infant can observe and experience, is part of learning and builds social skills. Being at the table with family is important. Food exposure is an important part of learning and development for infants. At an early age, infants can see, smell, and touch what the family is eating. From the age of 4-6 months an infant's handling of food as well as exposure to families enjoying food and eating influences their acceptance of foods and food groups later. (In time an infant will progress to biting, chewing and swallowing[18]). There is evidence that this early food exposure helps to educate the immune system and build tolerance.[19] Related Section: **Complementary Feeding 6-24 months**
• Infant is offered foods rich in iron among the first foods offered at about 6 months and continues with infant formula until 9 to 12 months	Solids are introduced before the infant is developmentally ready Inadequate iron intake Iron deficiency anaemia	Offering solid foods too early may increase the risk of diarrhea and gastrointestinal infections and early introduction is not associated with any apparent health benefit.[56] Infants need iron-rich foods at about 6 months including meat and alternatives and iron-fortified cereals.[4] Parents offer solids when an infant is developmentally ready and is interested, infants get to decide if they eat and how much. Signs of readiness at about 6 months are when the infant can sit independently with good head and neck control, has lost the tongue thrust reflex, turn head toward and away from food, shows real interest in exploring and eating food.[4,14,52,53] Related Section: **Complementary Feeding 6-24 months**

Expected Standard	Potential Problem	Information to Parents
Water used in preparation of infant feeds meets current safety standards	Unsafe water: • methemoglobinemia • contamination • unintentional high sodium intake • copper and lead poisoning	All water, whatever the source, should be sterilized (boiled) for preparing infant formula.[4,21,22] **Well water** must be tested at least twice a year to ensure it meets current Guidelines for Canadian Drinking Water Quality. Well water might be high in nitrates, nitrites, arsenic, fluoride or other heavy metals or contaminated with bacteria. For current information on water testing procedures call a local Public Health Officer. Use **Municipal water**. Home water softeners use a softening process that replaces calcium in the water with sodium.[20,21] Use only unsoftened cold water and let the water run for about 2 or more minutes each morning to flush out lead and copper that can accumulate in the pipes overnight. Hot water may contain more lead and contaminants (dissolve easier in hot water).[21] Public Health Officers can provide information on precautions depending on the type of pipes in your home. **Commercial bottled water** except carbonated or mineral water may be used for preparing formula.[4] There are no indications for or against use of distilled water.[21]
• Cool water that has been previously boiled is used in the preparation of infant formula that requires dilution	Bacteria and enteric pathogens	All types of water must be boiled for at least 2 minutes and cooled before mixing to ensure they are pathogen free.[4,21,22] There is no research to support an age at which it is safe to stop boiling water for infant formula preparation as the immune status of infants is highly variable and they are susceptible to foodborne illness.[21] Well water, municipal water and commercially bottled water are not sterile. Ensure water used in the preparation of powdered and concentrated infant formula is safe and pathogen free; advise parent and caregivers to: • bring water to a rolling boil • continue to boil water for 2 minutes • cool water to room temperature before using to prepare infant formula Boiled water will keep for 2–3 days in the back of the refrigerator or for 24 hours at room temperature if it is stored in a sterile, closed container.[4,21] Related Standard: **Safe and sanitary procedures are followed when preparing and storing food and feeding the infant**
	Destruction of heat sensitive nutrients	Water soluble nutrients in commercial infant formula, such as vitamin C, B vitamins and folate, are destroyed by high heat. Use cooled boiled water.

Expected Standard	Potential Problem	Information to Parents
Safe and sanitary procedures are followed when preparing and storing food and feeding the infant		Infant formula is available as ready-to-feed, concentrate, and powdered. A family's financial circumstance and/or geographical location may influence the type of infant formula available and/or chosen. Liquid infant formula is heat-treated to be sterile. It is available as ready-to-feed or as liquid concentrate. Ready-to-feed infant formula does not require diluting and is the safest choice for preterm (< 37 weeks) or low birth weight (< 2500g) infants under 2 months of age or for the immunocompromised infant.[22] Liquid concentrate needs to be mixed with water; to the dilution written on the product label. Infant formula is available as powdered infant formula (PIF) but, it is not sterile so care must be taken in preparation and feeding.[22] Remind parents to always carefully follow the mixing instructions on the label of the formula package.[4] Related Standard: **Water used in the preparation of infant feeds meets current safety standards**
	Food-borne illness	Remind parents of the proper kitchen, feeding equipment and hand hygiene. It is not necessary to use anti-bacterial products. Regular soap and water is sufficient. Sterilize feeding equipment and boil water used for infant formula preparation.[21,25] Remind parents that while it may not be necessary to sterilize after 4 months of age for healthy term infants, good kitchen and hand hygiene practices are still important as all infants are vulnerable to food borne illness.[21,25] There is no research to support an age at which it is safe to stop boiling water for infant formula preparation.[21] Prepared infant formula should be warm not hot and finished within two hours from the start of feeding. It is not safe to reuse any formula that remains in the bottle after the baby has been fed.[4,21]
	Unsafe water	Specific considerations for the use of water in formula preparation are dependent on the source (tap, well, bottled). Refer to Standard **Water used in the preparation of infant feeds meets current safety standards**.

Expected Standard	Potential Problem	Information to Parents
	Cronobacter sakazakii (Enterobacter) Salmonella enterica	Powdered infant formula is not and cannot be manufactured sterile. If liquid formula is not available or accessible, powdered infant formula (PIF) can be used if properly prepared.[4,22,23] Water for mixing powdered infant formula must be boiled. • bring water to a rolling boil • continue to boil water for 2 minutes • cool water for preparation and serving powdered infant formula For healthy term infants: • It is preferable to prepare each feed fresh – only enough formula for one feed at a time and feed immediately.[4] Prior to mixing, boiled water should be cooled to room temperature. • If preparing more than one bottle in advance, cool the boiled water to 70°C, pour the required amount of water into sterilized bottles, and add the powder exactly as per instructions on label. It can be stored on a shelf in the back of the refrigerator for up to 24 hours. Advise parents that the refrigerator temperature should be 4°C or lower.[4, 22, 23] For a preterm infant (< 37 weeks gestation) or a low birth weight infant (< 2500g) under 2 months of age or for an immunocompromised infant, the mother should follow the direction of their medical professional. In general: • Prepare each feed fresh and feed immediately. • Mix the formula with water boiled for 2 minutes and then cooled to 70°C. • Once mixed, formula should be rapidly cooled to a feeding temperature.[22] **Caution parents to always check the temperature of all formula on the wrist before feeding to infant.**
	Scalding from overheated formula	Caution parents that care should be taken to avoid scalding, which can occur in less than a second with formula at mixing temperature; about 70°C.[15] Formula should be cooled and then tested to ensure it is not too hot, either with a sterile thermometer or by sprinkling a few drops of the formula on the inside of the wrist.[22,24] **NOTE:** Powdered Infant Formula has been linked to outbreaks of cronobacter sakazakii and salmonella enterica; mainly in high risk populations.
	Microwave is used to heat formula	**Using the microwave to heat formula is not recommended.** The microwave heats unevenly and can cause hot spots in the formula.[4,21,25]

Expected Standard	Potential Problem	Information to Parents
	Bisphenol-A	Health Canada prohibited importation, sale, and advertising of plastic baby bottles that contain bisphenol-A on March 31, 2010. Health Canada advises that it is illegal to sell or give away baby bottles purchased before this date. Advise parents to check all products for a date before purchasing at garage sales and flea markets.
	Abnormal jaw development (primary palate development)	Bottle nipples should resemble natural nipple shape and be soft enough to flatten out against the roof of the mouth during sucking. A hard or poorly shaped bottle nipple can mold the baby's jaw in an abnormal shape. Help the parents choose the type of nipple that matches the baby's mouth size and stage of development.
	Choking and aspiration	Remind parents that their infant should always be held closely and securely while feeding. By adjusting the angle of the bottle parents can control the flow rate to prevent choking and aspiration. Nipples come in slow and fast speeds. For the newborn infant, the slow flow nipple is preferred. Use a faster flow nipple as the baby gets older. If the flow of milk is too fast for the infant and the bottle is not adjusted, then infant is likely using their tongue to control flow of formula. Baby is then at an increased risk for developing a tongue thrust.[26] Correct speech and sound production requires precise movements of the oral muscles – tongue, lips, soft palate, jaws, and cheeks. Any disruption or deviancy in movement, as seen in a tongue thrust, will adversely affect speech.[27]
Infant exhibits normal elimination patterns	Inadequate wet diapers and potential dehydration	The first urination typically occurs within 8 hours of birth.[2] By day 4 the infant should have at least 6 wet heavy diapers every 24 hours. Urine should be clear or pale yellow.[2] More wet diapers per day may result in a smaller amount of urine per void; after 6 weeks, the number of wet diapers may be less but the amount per void should be larger. Fewer wet diapers may indicate an inadequate intake of formula, which can effect growth; ask mother about feeding volume and frequency, check growth and advise as required. Related Standards: **Mother not exclusively breastfeeding is supported to ensure infants nutritional well-being** *and* **Mother and child exhibit satisfaction with the feeding relationship** *and* **A quality feeding relationship exists within the context of a supportive family environment**

Expected Standard	Potential Problem	Information to Parents
	Infrequent stooling	Meconium, which is dark green or black, should be passed within 24-48 hours of birth.[4] Stools in the first 3 days will vary between light brown, yellow or green in colour and be sticky and gelatinous. Infants have an average of 4 or more stools a day during the first week of life and 2 per day by 4 months of age. Stool frequency varies widely and frequency decreases with age due to the infants maturing gut's ability to conserve water.[57] Formula fed infants tend to stool less often than breastfed infants.[57,60] The stool of formula fed infants is firmer than for breastfed infants. The colour and consistency of stools can vary depending on nutritional composition of the formula. Casein dominate formulas may produce a stool that is more formed and firm than seen in whey dominate formulas. Formula containing palm olein tends to produce a firmer stool.[28] Colour can be yellow, green, brown, black or mixed.[57] Infrequent stooling may indicate inadequate calorie and/or fluid intake. Ensure the infant is receiving sufficient volume and frequency of feeds and formula is prepared in the proper concentration. It may be helpful to review relevant information in the following standards: **Mother not exclusively breastfeeding is supported to ensure infants nutritional well-being** *and* **Mother and child exhibit satisfaction with the feeding relationship** *and* **A quality feeding relationship exists within the context of a supportive family environment**
	Infant dyschezia	This condition may occur during the first few months. Infant strains and screams during prolonged attempts to defecate. The cause is unknown. It is hypothesized that the infant fails to coordinate increased intra-abdominal pressure with relaxation of the pelvic floor muscles.[29] In dyschezia, a physical and stool exam are normal. Infants will cry in an attempt to create intra-abdominal pressure necessary before they learn to bear down effectively for bowel movement.[45] Infant dyschezia rarely lasts more than 2 weeks and resolves spontaneously.[45]

Expected Standard	Potential Problem	Information to Parents
	Parental perception of constipation	Remind parents that stool habits vary widely from infant to infant.[60] Infrequent stooling does happen.[45] Related problem **Infrequent Stooling** Within normal bowel function there is a range in consistency and frequency of stool. Changes in stool consistency and bowel frequency may occur during the transition from breastfeeding to infant formula or a change in brand/type of infant formula or during introduction to solid foods.[45] This does not last long and regular bowel movement patterns develop. Constipation is dry and hard stools that make stooling difficult and painful.
	Constipation	While formula fed infants have firmer stools than breastfed infants, constipation is rare.[14] Infrequent stooling happens > 2-3 months of age and is considered appropriate for developmental age although commonly mistaken for constipation.[4] Constipation is rare but if it occurs early in life is a special situation. The possibility of organic causes such as Hirschsprung disease (blockage of the large intestine due to improper muscle movement in the large bowel) needs to be investigated.[30,31] Constipation may also result from the use of medications.[31] Refer to physician.
	Diarrhea	Diarrhea is common in babies and children and it is usually mild and brief; however, to be safe, contact the appropriate health provider for all infants under 6 months who present with diarrhea.[57] Diarrhea may be caused different things e.g. bacteria, viruses, parasites, medication, adverse food reactions or functional (idiopathic) bowel disorders. The treatment for diarrhea is to replace lost body fluids (made up of water and salts). • Continue to feed expressed/donor human breastmilk for those infants who are fed this method.[57] • If infant is partially breastfed, continue offering breast milk. Try to increase the frequency of breastfeeding. • Continue to offer the infant formula normally used for formula fed infants.[57] Do not dilute the infant formula.

Expected Standard	Potential Problem	Information to Parents
	Dehydration	Signs of dehydration include decreased urination, increased thirst, no tears, dry skin, dry mouth and tongue, faster heartbeat, sunken eyes, grayish skin, sunken soft spot (fontanelle) on baby's head. Emphasize to parents that they avoid giving drinks such as fruit juice or sweetened fruit drinks, carbonated drinks (pop/soda), or sweetened tea, broth or rice water.[57] These have inappropriate amounts of water, salt and sugar and can make diarrhea worse.[57] Offering plain water is also inappropriate and may lead to low sugar or low sodium levels in the infant's blood.[57] Parents need to consult with physician if the infant has bloody or black stools, still vomiting after 4-6 hours, diarrhea and fever with a temperature higher than 38.5°C (101.5°F), signs of dehydration (above), or lethargy.[57] Canadian Paediatric Society has a position statement with guidelines around taking children's temperature. For children under 2 years, the recommended techniques are 1. rectal 2. axillary (armpit) with a digital thermometer (not a mercury based one).[58]
Mother and family have access to enough healthy foods	Mother's diet does not provide the nutrients needed to support her health	Food choices that are based on Canada's Food Guide provide adequate calories and nutrients. Emphasize the special importance of a varied diet.
• Vegetarian mothers have adequate access to nutrient rich foods	Iron deficiency Vitamin B12 deficiency	Liberal vegetarian diets that include some animal foods – dairy and eggs – generally provide sufficient nutrients. If there are any doubts about the quality of the maternal diet, refer to a dietitian for counseling or consultation. Mothers on a strict vegetarian or vegan diet require vitamin B12 supplementation. Refer mother to a physician and dietitian.
• Mother of infant at high risk of atopy receive the support needed	Infant doesn't receive appropriate intervention	For infants at high risk of developing atopic disease, there is evidence that exclusive breastfeeding for at least 4 months – as compared to feeding intact cow milk protein formula – decreases the incidence of atopic dermatitis and cow milk allergy in the first 2 years of life.[8] Infants who are at a high risk of developing atopic disease who are not exclusively breastfed may benefit from the use of hydrolyzed infant formula compared to cow milk-based formula.[8,9] Parents might need advice from a dietitian regarding appropriate formula. (for infants partially breastfeeding, see this standard in Breastfed Infants 0-6 months; as it is important a mother does not restrict her diet unnecessarily[55]).

Expected Standard	Potential Problem	Information to Parents
		An infant at risk for developing an allergy has a biological parent or sibling with a diagnosed atopic disease e.g. asthma, eczema, hay fever or food hypersensitivity.[8,55] While infants with risk factors may be more susceptible to atopy, the factors are not specific or sensitive enough to predict atopy.[39] **NOTE:** Lactose intolerance is not common and is not an atopic disease (allergy). Related Standard: **Complementary Feeding – A child with a risk of atopy or with suspect food sensitivity receives counseling as medically indicated**
• Mother's weight loss does not exceed normal losses of more than 2-4 lbs per month	Weight loss exceeds normal healthy loss. *A rapid weight loss may indicate a medical or mental health issue (eating disorder or post-partum depression).*	Mothers should eat to their hunger and drink to their thirst.[2] Rapid weight loss can potentially lead to fatigue. Help mother identify issues and arrange for counseling and medical support as appropriate.
• Income and family resources are sufficient to provide food security for the whole family	Poor food choices related to: • economic hardship • cultural beliefs • medical conditions	Infant formula can cost $65.00 to $300.00 per month depending on the brand for the first 3 months and $135.00 to $447.00 per month from 4-12 months. Food security means having access to enough healthy foods without experiencing difficulty meeting other family needs. Income is a determining factor for ensuring adequate healthy foods in a household. Ensure families suspected of being food insecure are connected to community resources and local food security initiatives. Many municipalities have food security organizations, programs and/or emergency assistance. Check in your local area and connect mother and family to supports as needed. Larger urban agencies include: Saskatoon: CHEP Good Food Inc. www.chep.org Regina: Regina Education & Action on Child Hunger www.reachinregina.ca Prince Albert: Smart Families Food Co-op www.pafoodbox.ca

Expected Standard	Potential Problem	Information to Parents
Mother and infant take only the recommended supplements as appropriate	Infant exposed to unsafe substances Infant formula intake is being supplemented	Over-the-counter drugs, medications and herbs taken by the mother or given to the infant potentially increase health risks. Dietary supplements and altering formulas without the advice or monitoring of a physician, pediatric dietitian or other qualified health professional may increase health risks. Clinical guidelines for supplementation of pre-term infants (post-discharge criteria) are determined by hospital clinicians and mothers typically have the treatment plan.
• Mother achieves and maintains an adequate Vitamin D status	Vitamin D deficiency	Mothers' should consult with their physician regarding supplemental Vitamin D for herself. Foods to include for Vitamin D are salmon, eggs, margarine and cow milk. In northern Saskatchewan, walleye, lake trout and white fish are also good sources of Vitamin D; white fish is lowest in mercury. Adequate Vitamin D in a mother's diet is important because if she has sub-clinical Vitamin D deficiency, then her infant will be born with limited stores of Vitamin D.[32] Partially breastfed infants get some Vitamin D from mothers' breastmilk but her Vitamin D levels depend on her Vitamin D intake from foods and supplements. **NOTE:** Infant born to a mother who is dark skinned, an immigrant, has high parity, short duration between her pregnancies, avoids milk, and/or has limited access to sunlight is at greater risk for Vitamin D deficiency.[32]
• Infant receives adequate Vitamin D	Vitamin D deficiency or excess	Health Canada recommends a Vitamin D supplement of 400IU for partially breastfed infants.[4] Formula fed infants who drink 1000 mL formula per day will get 400IU of Vitamin D from the formula. Infants who consume less than 1000 mL of commercial infant formula in a day may need a supplement.[33] **See your public health nutritionist for the Vitamin D recommendations chart.** **NOTE:** The Canadian Pediatric Society recommends a total Vitamin D intake of 800IU from all sources (food and supplements) from October to April for those living above the 55th parallel. That recommendation is also for those living between the 40th and 55th parallel IF they have other risk factors: e.g. not exposed to enough sunlight or those that have darker skin.[32] *** for this age, food would mean breastmilk and formula* Infants who may have insufficient Vitamin D intake or who may be at high risk for deficiency should be referred to and assessed by their physician.

Expected Standard	Potential Problem	Information to Parents
	Infant aspirates	Medication comes in a variety of forms, dosages, and serving sizes. Choose the form that works for the mother and infant pair. Some babies may find baby D drops® easier to use – as one drop (400IU) can be put directly on the nipple (breast or bottle) before a feed.
• Infant achieves and maintains an adequate iron status	Iron deficiency anaemia or excess iron	Iron deficiency anaemia and excess iron can have irreversible impact on cognitive and psychomotor development. Mother should not supplement without a physician recommendation and treatment follow up. Infants born at less than 3000 g; pre-term infants (< 37 weeks gestation); infants born to iron deficient mothers, mothers with diabetes or mothers who consumed excess alcohol during pregnancy are at a higher risk for iron deficiency.[4] Infants should be assessed for iron status by a physician.
• Infant receives probiotics only when medically indicated	Altered gut flora	Probiotics have a good safety profile and there are generally no adverse side effects from their use.[34,35] Probiotics appear to be beneficial for specific health concerns in infants provided that the proper strain, product selection and dosing guidelines of commercial products are followed.[36,37] Probiotics are strain-disease specific.[40] More research is needed to determine the best dose, strain and duration for a specific use or disease. There might be some benefit in treating antibiotic-associated diarrhea or necrotizing enterocolitis but the role of probiotics is unproven.[40] Although there is generally no adverse effects from probiotics, immunocompromised patients have shown systemic and local infections caused by some probiotics.[40] Advise parents to consult with a paediatrician or appropriate specialist. Some infant formulas are supplemented with probiotics however, the routine use of those formulas is not recommended.[59] The research on prebiotics (and probiotics) uses commercial infant formulas with the product included and not as separate supplements. Caution should be taken for products where safety and efficacy is unknown. An infant formula containing the prebiotic has no adverse effects on growth in healthy term infants, but the clinical significance is unclear and not established.[59] The effects and/or safety of any one particular prebiotic product should not be extrapolated to any other product.[59] There does not seem to be sufficient research studies testing the use of taking both pre and pro biotics together. The efficacy of supplements that include both pre and pro biotics has not been established.[59]

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Nutrition and Growth Assessment Manual for Infants and Children 2014

Assessment *for* Breastfed Infant-Toddler 6-24 Months

Feeding Relationship p. 91

Mother and child exhibit satisfaction with the feeding relationship

- Mother understands expected eating behaviours as complementary foods are introduced and breastfeeding is sustained beyond 6 months
- Mother is responsive to continued feeding nighttime and daytime
- Mother understands what to do about common breastfeeding problems
- Mother has the skill to express breast milk when separated from her infant

A quality feeding relationship exists within the context of a supportive family environment

- Partner or significant other supports the mother/child nursing couple
- Mother and partner are aware of contraceptive methods that support continued breastfeeding
- Parents make adjustments to reduce their infant/child's exposure to lifestyle risks

Parents have access to supports including specialized counseling

- Mother suspected of postpartum depression receives appropriate referral and management
- Mother dealing with trauma or violence is aware of resources she can access
- Mother returning to paid work is aware of resources she can access to sustain breastfeeding

Growth & Development p. 97

Infant growth is progressing normally

Growth pattern tracks parallel to the 50th percentile over time and falls between the 3rd and 85th percentiles

Infant exhibits age appropriate development as pertains to feeding

Nutrition p. 100

Infant is exclusively breastfed for 6 months with continued breastfeeding for up to 2 years and beyond

Safe and sanitary procedures are followed when preparing and storing food and when feeding the infant

Infant exhibits normal elimination patterns

Mother and family have access to enough healthy foods

Mother and infant take only recommended supplements

BREASTFED INFANT 0-6 MONTHS

COMPLEMENTARY FEEDING 6-24 MONTHS

Expected Standard	Potential Problem	Information to Parents
The Division of Responsibility is a key piece of the feeding relationship. Parents are responsible for **what** is offered and as infants grow, they increasingly take responsibility for **when** and **where** it is offered. Infants, toddlers, and children get to decide **how much** to eat and **whether** they eat. The 'what' is breastmilk and family foods. The 'when' are the planned meals and snacks as solid foods are gradually introduced. The 'where' is important and parents should be encouraged to always serve/offer food at the family table. Fundamental to parents' jobs is to trust their children to decide *how much* and *whether* to eat. If parents do their jobs with *feeding*, children will do their jobs with *eating* and learn to become competent eaters. www.ellynsatterinstitute.org		
Mother and child exhibit satisfaction with the feeding relationship	Mother expresses dissatisfaction with the breastfeeding or feeding relationship	Many factors can affect the breastfeeding and feeding relationship in the older infant and toddler. The introduction of solid foods and building eating competence adds a new dimension to the feeding relationship. For guidance on supporting a quality feeding relationship as infant, toddler, child is introduced to age appropriate foods, refer to **Complementary Feeding 6-24 months**.
• Mother understands expected eating behaviours as complementary foods are introduced and breastfeeding is sustained beyond 6 months	Not following cue based feeding or mother misinterprets feeding cues Mother led weaning Mother expects infant to sleep through the night	A mother and infant gradually evolve a pattern for breastfeeding both during the day and night as complementary foods are gradually introduced in a way to successfully sustains breastfeeding beyond 6 months. Remind parents to expect that: • breast milk is the main source of nutrients during the first year • the frequency of nursing may not change until infant receives the majority of calories from family foods at about 12 months • breastfeeding may become more frequent during nighttime • infants are learning and experiencing and may not 'eat' solid food right away or every time it is offered • each infant/toddler/child has their own individual own food habits and behaviours Related Standards: **Complementary Feeding – Infant takes the lead when first learning to eat solids** *and* **Child is offered a variety of healthy foods but is given the responsibility to decide how much to eat**

Expected Standard	Potential Problem	Information to Parents
• Mother is responsive to continued feeding nighttime and daytime	Non-responsive feeding practices Mother is fatigued A pacifier is used to delay feedings	Cue-based feeding and a responsive parenting style positively affect milk supply and the satisfaction with feeding for both mother and infant. Remind parents that: • breastfeeding during night is important for infant growth • breastfeeding during night helps sustain the breastfeeding relationship • breastfeeding mothers who room-in with infant may get more rest • as infants grow, their stomachs can hold more milk and they develop more regular feeding patterns • pacifiers are not a substitute for feeding. Pacifiers may interfere with energy intake and lead to poor weight gain or growth faltering Discuss with the mother what makes a safe sleeping environment. The Canadian Paediatric Society provides information on risks and safety of a variety of factors related to sleep environment.[5]
• Mother understands what to do about common breastfeeding problems and concerns	Nipple trauma & Nipple pain (e.g. Mastitis, Yeast infections, Sore nipples) Milk insufficiency Unintentional weaning	Continue with responsive parenting and cue-based feeding. If an infant does not seem to be getting enough breastmilk, encourage the mother to seek professional guidance to increase and support sustained breastfeeding. Scheduled breastfeedings at specific times can increase maternal discomfort and/or infant dissatisfaction with the nursing relationship. Discomfort and/or dissatisfaction can result in mastitis, milk insufficiency and/or early weaning. Mother might require appropriate medical or lactation/ breastfeeding support. Refer to appropriate health provider.
	Infant is easily distracted	Infant distraction should not be interpreted as the infant or toddler losing interest in breastfeeding. Infants and toddlers are learning about the world around them. A lot to see and hear. Distractions include illness (e.g. cold), overstimulation, delayed feedings or too long between feeds, teething, noise, or new smells and tastes. An infant with a distraction like a cold may need comfort before or while feeding and other distractions, such as TV, can be reduced by turning it off or moving to feed in a quieter location or lying down with the infant at nap time. Nighttime nursing may increase in this age. Nighttime nursing is normal and a way that infants and toddlers make up any missed daytime feedings. Missed daytime feeds occur when there are changes in the child's routine such as mother going back to work, infant development (teething, growth spurt), or if the child is ill.

Expected Standard	Potential Problem	Information to Parents
		Distraction easily happens when the infant/child is not ready to feed (watch for infant cues) or s/he is anxious. Distractions can also come from household noise and activity going on around the infant/child.
	Infant biting	Infant biting may happen when the infant teethes. An infant who is teething may temporarily nurse differently. It is not necessary to wean. Suggest that the mother: • stay calm • pull the baby in close enough to partially block his airway. This causes him to release the nipple • stop the feeding • offer an acceptable teething object • take note of what preceded the biting incident. It may help in finding ways to anticipate and prevent recurrence • recognize when the infant cues the end of a feed • give baby complete attention while nursing[1]
	Infant refuses the breast	Infants under one year are unlikely to wean themselves abruptly. Infants between 3 and 8 months, who have been breastfeeding well, may suddenly refuse to nurse and be unhappy about it. This is called a nursing strike. Some reasons infants may stop taking the breast include teething, stuffy nose, ear infection, reaction to being left unattended to "cry it out" and family stress or separation. Suggest the mother: • vary breastfeeding positions • offer the breast while walking or rocking • give the baby skin to skin contact • nurse when the baby is drowsy With patience and persistence, breastfeeding will resume in 2 to 4 days.[1]
• Mother has skill to express breast milk when separated from her infant	Breastfeeding may diminish or be discontinued	Breast milk can be expressed by hand or pump. For the infant/toddler mother pair who wish to feed breastmilk, it is particularly valuable during times of separation, including hospitalization, travel or work. Hand expression or breast pump are methods to sustain breastmilk supply as well as build a reserve of breastmilk when the mother returns to work or school. Related Standard: **Mother returning to paid work is aware of resources she can access**.

Expected Standard	Potential Problem	Information to Parents
		Hand expression is a valuable skill that is protective of mother's health and comfort, especially in unexpected situations. If mother has questions or assistance is needed to adequately learn the technique for hand expression, refer to a Lactation Consultant, breastfeeding clinic, or mother-to-mother support group. Advise parents on the availability of breast pumps for loan.
A quality feeding relationship exists within the context of a supportive family environment		Include all family members (father, partner, siblings, grandparents, aunts, caregivers etc.) in breastfeeding education. Mothers are more likely to exclusively breastfeed for the first 6 months and continue breastfeeding longer when family members are supportive.[6] Knowledge, attitudes and cultural or generational beliefs and practices may or may not support breastfeeding (i.e. exclusive breastfeeding to six months and continued breastfeeding to two years and beyond).
• Partner or significant other supports the mother/child nursing couple	Family or societal pressures to wean Lack of support	Support from others including family, friends and other breastfeeding mothers, can provide encouragement. Family and societal support is key to the breastfeeding relationship.[2] Support also helps to overcome feelings of isolation and being tied down.[1,2,3] Equitable and reciprocal sharing of work can be practiced by fathers. Fathers (as well as other family members) can be responsible for other caring and household tasks. An older child might help prepare the family meals or play with siblings, so the mother has the time and space to breastfeed. Breastfeeding/breast milk offer sustained and ongoing immunological protection, emotional comfort and security for up to 2 years and beyond.[3] This breastfeeding enables the mother to continue to benefit from the hormones that support caring behaviour and build attachment bonds. Related Standard (below): **Parents have access to supports including specialized counseling**
• Mother and her partner are receptive to contraceptive methods to support continued breastfeeding	Reduced milk supply	Some contraceptives can reduce milk supply. Estrogen-containing pills may reduce milk production.[6] Barrier devices and surgical sterilization does not interfere with breastmilk supply. Remind mothers that LAM method of birth control is only reliable during the first 6 months (Breastfed Infants 0-6 months and Operational Definitions). Refer the mother to the appropriate professional to determine the right contraceptive for her.

Expected Standard	Potential Problem	Information to Parents
• Parents make adjustments to reduce infant's exposure to lifestyle risk behaviours	Smoking Alcohol Illegal drugs	Remind parents that smoking, alcohol and drugs (including medications) can affect an infant's health. These are also risk factors for safe co-rooming with an infant.[5] Canadian Centre on Substance Abuse has harm reduction guidelines for alcohol consumption.
Mother has access to supports including specialized counseling	Mother is unaware of those available supports or does not know how to access supports	Support or counselling may be for a variety of concerns such as lactation, nutrition, atopy, postpartum depression and workplace accommodation. Referral to counseling services that provide support to parents and infants can be made by PHN or other health provider. Lay or peer support may be effective in increasing rates of breastfeeding duration.[3] Help the mother to identify another person who has breastfed successfully for up to two years or beyond, a local support group, and mother-to-mother internet support groups (public library systems provides free access to the internet).
• Mothers suspected of postpartum depression receive appropriate referral and management	Depression not recognized Treatment not appropriate Untimely weaning	See: **Breastfed Infants 0-6 Months**
• Mother dealing with trauma or violence is aware of resources she can access	Mother is dealing with trauma or danger of violence	Mother may need supportive medical, legal and mental health advice as well as advice on how to maintain the nursing couple (baby and mother) during the breastfeeding period. In abusive relationships, there are risks of increased violence against breastfeeding mothers. Health provider may need to connect mother to other support services. Mother is provided information about available safe houses and other community supports.
• Mother returning to paid work is aware of resources she can access	Mother is not accommodated when she returns to paid work	Remind parents of their right to breastfeed when they return to work and that the employer has a duty to accommodate. (Saskatchewan Human Rights). Lack of support and accommodation to maintain breastfeeding can lead to untimely weaning. Accommodations include having a safe, private and comfortable place to breastfeed; express/store breastmilk; time at work to breastfeed/express breastmilk.

Expected Standard	Potential Problem	Information to Parents
	Mother has not planned how to balance work/school with sustained breastfeeding	Encourage mother to plan ahead to make it easier to provide her milk for her baby: • start building a reserve supply of frozen milk about 3-4 weeks before she will be regularly separated from her infant/child • return to work gradually (starting in the middle of a work week first, if possible, works well) • discuss the plan with supervisor well ahead of time • practice method of milk expression several weeks before returning to work Help mother plan how to accommodate household needs, such as make lunches the night before, as well as asking for support and assistance from family members. Related Standard: **A quality feeding relationship exists within the context of a supportive family environment**

Expected Standard	Potential Problem	Information to Parents
For more information about the WHO Growth Charts and the evidence summary and appropriate interpretation, refer to www.whogrowthcharts.ca (Dietitians of Canada). Dietitians of Canada hosts an orientation package (five training modules & related resources) for monitoring growth in infants and children using WHO growth charts in Canada.		
Infant growth is progressing normally Serial measurements of weight and length and head circumference are measured, recorded and plotted accurately on the appropriate WHO growth chart[9,10,11] weight-for-age length-for-age OR height for age weight-for-length head circumference-for-age • Parental height is recorded • Record infant age in years/ months/days; plot to nearest completed ½ month • Cut-off criteria using WHO charts Infants born < 37 weeks gestation are age adjusted before plotting.[11] Adjusting age should be done until the infant is at least 24 months.	Inaccurate assessment of growth[13] due to: • Missing measurement(s) • Inaccurate measurement(s) • Inaccurate recording and/or plotting • Inappropriate equipment • Key information relevant to interpretation and assessment is missing	Explain the importance of trend over time and the related information that provides context for the charts and what is seen in the charts. The goal is not for child to be at the 50th percentile[8,9] it is the trend or direction on the curve that is important. Advise parents that it is important to look at patterns of growth rather than any one single measurement. Regular measurements are required to assess growth.[7,8] One measure does not provide enough information on how a child is growing.[8,9] A measurement taken at any one time only describes an infant's size at that point in time. When measurements at only one time point are available a **weight for length** gives more information overall (speaks to growth proportion) and help parents understand whether the child's size is within or outside an expected range.[9] Following growth is essential to detecting nutritional inadequacies or underlying disease.[11] A child who is not trending well needs to be assessed (anthropometric, growth potential, history, physical exam, development, feeding relationship, food history/complementary foods and family dynamics)[13] and may require assessment from several health specialties.
Growth pattern tracks parallel to the 50th percentile over time and falls between the 3rd and 85th percentiles	Growth falls outside expected range (3rd – 85th) Head circumference outside expected range Sharp rise or fall in weight or length Growth curve is flat	When a child's growth or single indicator is outside of expected range, re-measure, verify age and re-plot. Recheck all measures together to ensure accurate numbers and interpretation. Offer anticipatory guidance, support to continue breastfeeding and appropriate referral if there are concerns. Encourage parents to continue to come for regular weight monitoring so potential growth faltering or poor feeding is addressed early. Advise parents that infants who grow outside the 3rd to 85th percentiles, but track parallel to the 50th percentile, may be growing normally for them. More information may be needed regarding medical concerns, developmental issues, cue-based feeding and feeding relationship, family mealtime, introduction of solids (iron rich foods) and adequate nutrient intake.

Expected Standard	Potential Problem	Information to Parents
NOTE: Crossing a percentile for **both** weight and length/height may be normal for the first 2 to 3 years.[11] Crossing percentiles is called channel surfing.[8,9,10] When the change in weight and length is similar, the child may be moving toward their genetic potential.[11] Assessment is needed to rule out other reasons for any change in growth. **NOTE:** Breastfed infants tend to grow more slowly in the second six months of life compared to non-breastfed infants. Assess **pattern** of weight, linear growth, and the ratio of weight-length as well as whether infant is breast or non-breastfed and if complementary foods have been introduced before suggesting changes in feeding.	Inappropriate management or intervention is suggested when growth is outside predictable range but is parallel to 50th Additional information has not been sought to establish whether child is exhibiting a normal variation of growth	Normal growth can show a gradual shift that crosses **both** weight and length/height percentiles within the first 2 to 3 years as child moves toward their own genetic potential.[8,9,10,11] An increases or decrease in growth may be an expected result from an issue such as catch up growth after illness, change in feeding practice/behavior, overfeeding, underfeeding, or weight loss due to an illness, but to prevent potential growth disturbances, any change should be reviewed and assessed. Investigate the changes **before** a child crosses percentiles.[8,9,11] Assist parents in identifying issues or concerns they may have about their infant's growth and/or feeding relationship. Identify medical and/or developmental issues. Once all information is available, based on the assessment: • reinforce that the infant is growing and developing well • assist parents in understanding the need for additional observation and monitoring or connect them with appropriate support or referral as needed Referral may be needed if: • Growth is less than 3rd percentile or greater than the 85th percentile • Weight-for-length is greater than the 97th percentile (further assessment recommended) Referral is appropriate if: • Infant's head circumference for age is below the 3rd percentile or above the 97th percentile • There is a sharp upward or downward growth trend over a short period • There is a consistent flat growth trend • There is a questionable growth trend with red flags related to medical concerns of mother or child, development, feeding relationship and/or nutrition *Percentile lines < 3rd and > 97th are not on all growth charts and are only included if relevant to a particular age.*

Expected Standard	Potential Problem	Information to Parents
Infant exhibits age appropriate development as pertains to feeding	Infant, toddler, child does not reach expected developmental milestones	Discuss signs of readiness to introduce solids to an infant. The developmental signs are more important than a specific age or date: the infant can sit independently with good head and neck control, has lost the tongue thrust reflex, turn head toward and away from food, shows interest and is willing to take food.[7,12,13,14] Related Standard: **Complementary Feeding 6-24 months Growth & Development – Infant shows signs of readiness for solids** Food exposure is still important. Discuss having infant included at the family table during all mealtimes. This interaction around the table begins to build social skills and can increase food acceptance later and is part of building eating competence. Related Standard: **Breastfed Infants 0-6 months NUTRITION – Infant is exposed to family mealtimes, food and eating experiences but introduction of solids is delayed until about 6 months**
	Delayed oral and motor skill development (infant is offered other fluids in a bottle)	When introducing new liquids offer them to the infant in an open cup.[1] An open cup can be introduced to infants when complementary foods are offered about 6 months. Using an open cup promotes oral and motor skill development and helps reduce the risks associated with long-term use of bottles such as displacement of nutrient rich solid foods. A breastfed infant does not need a bottle or Sippy cup; expressed breastmilk can be mixed in with their solid foods or the additional fluids can be offered on a spoon or in an open cup. Infants that have been feeding expressed breastmilk from a bottle can continue to be offered breastmilk in a bottle, as initially, they might have difficulty consuming the same volumes with an open cup.[1] Transition from the bottle to open cup should occur at the beginning of a toddlers second year (about 12 months). Complete transition from bottle feeding to drinking from an open cup should occur no later than 18 months of age.[1] Related Section: **Complementary Feeding 6-24 months**

Expected Standard	Potential Problem	Information to Parents
Infant is exclusively breastfed for 6 months with continued breastfeeding for up to 2 years and beyond Safe and sanitary procedures are followed when preparing and storing food and when feeding the infant Infant exhibits normal elimination patterns Mother and family have access to enough healthy foods Mother and infant take only recommended supplements *see* NAMIC sections **Breastfed Infant 0-6 months** **Complementary Feeding 6-24 months**		

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Nutrition and Growth Assessment Manual for Infants and Children 2014

Assessment *for* Non-Breastfed Infant-Toddler 6-24 Months

Feeding Relationship p. 107

Mother and child exhibit satisfaction with the feeding relationship

A quality feeding relationship exists within the context of a supportive family environment

Parents have access to supports including specialized counseling

NON-BREASTFED INFANT 0-6 MONTHS

COMPLEMENTARY FEEDING 6-24 MONTHS

Growth & Development p. 108

Infant growth is progressing normally

Growth pattern tracks parallel to the 50th percentile over time and falls between the 3rd and 85th percentiles

Infant exhibits age appropriate development as pertains to feeding

Nutrition p. 111

Mother not planning to continue breastfeeding is supported to ensure her infant's nutritional wellbeing

- Mother of partially breastfed infant is supported to maintain lactation
- Infant who cannot or should not be fed their mother's breastmilk is offered the appropriate feasible option
- Infant is receiving a commercial infant formula that meets their nutritional needs
- Infant is receiving commercial infant formula in the proper concentration
- Infant is receiving the quantity of commercial infant formula which best meets needs
- Infant is not offered cow milk or goat milk before 9 to 12 months of age
- Infant is exposed to family mealtimes, food and eating experiences
- Infant is offered foods rich in iron among the first foods offered at about 6 months and continues with infant formula until 9 to 12 months of age

COMPLEMENTARY FEEDING 6-24 MONTHS

Water used in the preparation of infant feeds meets current safety standards

- Municipal cold tap water; safe well water; or commercially bottled water (except carponated or mineral water) is used for formula and food preparation

NON-BREASTFED INFANT 0-6 MONTHS

Safe and sanitary procedures are followed when preparing and storing food and feeding the infant

- Infant/child is offered formula, fluids and food at a safe temperature
- Infant is offered food that meet national safety standards

Infant exhibits normal elimination patterns

COMPLEMENTARY FEEDING 6-24 MONTHS

Mother and family have access to enough healthy foods

- Vegetarian mothers have adequate access to nutrient rich foods
- Mother of an infant at high risk of atopy receives the support needed
- Mother's weight loss does not exceed normal losses of more than 2-4 lbs per month
- Income and family resources are sufficient to provide food security for the whole family

Mother and infant take only recommended supplements

- Mother achieves and maintains an adequate Vitamin D status
- Infant receives adequate Vitamin D
- Infant achieves and maintains an adequate iron status
- Infant receives probiotics and prebiotics only when medically indicated

Expected Standard	Potential Problem	Information to Parents
Mother and child exhibit satisfaction with the feeding relationship **A quality feeding relationship exists within the context of a supportive family environment** **Parents have access to other supports including specialized counseling**		

***See* Non-Breastfed Infants 0-6 Months and Complementary Feeding 6-24 Months**

The Division of Responsibility is a key piece of the feeding relationship. Parents are responsible for **what** is offered and as infants grow, they increasingly take responsibility for when and where it is offered. Infants, toddlers, and children get to decide **how much** to eat and **whether** they eat. The 'when' are the planned meals and snacks as solid foods are gradually introduced. The 'where' is important and parents should be encouraged to always serve/offer food at the family table.

Fundamental to parents' jobs is to trust their children to decide *how much* and *whether* to eat.

If parents do their jobs with *feeding*, children will do their jobs with *eating* and learn to become competent eaters. www.ellynsatterinstitute.org

Expected Standard	Potential Problem	Information to Parents
For more information about the WHO Growth Charts and the evidence summary and appropriate interpretation, refer to www.whogrowthcharts.ca (Dietitians of Canada). Dietitians of Canada hosts an orientation package (five training modules & related resources) for monitoring growth in infants and children using WHO growth charts in Canada.		
Infant growth is progressing normally Serial measurements of weight and length and head circumference are measured recorded and plotted on the appropriate WHO growth chart[2,26,27] weight-for-age length-for-age OR height for age weight-for-length head circumference-for-age • Parental height is recorded • Record infant age in years/ months/days; plot to nearest completed ½ month • Cut-off criteria using WHO charts Infants born < 37 weeks gestation are age adjusted before plotting.[27] Adjusting age should be done until the infant is at least 24 months.	Inaccurate assessment of growth[29] due to: • Missing measurement(s) • Inaccurate measurement(s) • Inaccurate recording and/or plotting • Inappropriate equipment • Key information relevant to interpretation and assessment is missing	Explain the importance of trend over time and the related information that provides context for the charts and what is seen in the charts. The goal is not for child to be at the 50th percentile[26,27] it is the trend or direction on the curve that is important. Advise parents that it is important to look at patterns of growth rather than any one single measurement. Regular measurements are required to assess growth.[2,26] One measure does not provide enough information on how a child is growing.[26,27] A measurement taken at any one time only describes an infant's size at that point in time. When measurements at only one time point are available a **weight for length** gives more information overall (speaks to growth proportion) and help parents understand whether the child's size is within or outside an expected range.[27] Advise parents that a measurement taken at any one time only describes an infant's size at that point in time. Regular measurements (serial measures) are required to be able to assess growth. The goal for each infant is not to be at the 50th percentile, the trend or direction on the curve is more important. Following growth is essential to detecting nutritional inadequacies or underlying disease.[29] A child who is not trending well needs to be assessed (anthropometric, growth potential, history, physical exam, development, feeding relationship, food history/complementary foods and family dynamics)[29] and may require assessment from several health specialties.
Growth pattern tracks parallel to the 50th percentile over time and falls between the 3rd and 85th percentiles	Growth falls outside expected range (3rd – 85th) Head circumference outside expected range Sharp rise or fall in weight or length Growth curve is flat	When a child's growth or single indicator is outside of expected range, re-measure, verify age and re-plot. Recheck all measures together to ensure accurate numbers and interpretation.[29] Offer anticipatory guidance and appropriate referral if there are concerns. Encourage parents to come in for regular weight monitoring so that potential growth faltering or poor feeding can be addressed early. Infants who grow outside of the 3rd to 85th percentiles but track parallel to the 50th may be growing normally for them. More information is needed regarding medical concern, developmental issues, cue-based feeding and feeding relationship, family mealtime, introduction of solids (iron rich foods) and adequate nutrient intake.[26]

Expected Standard	Potential Problem	Information to Parents
NOTE: Crossing a percentile for **both** weight and length may be normal for the first 2 to 3 years.[29] Crossing percentiles is called channel surfing.[26,27,28] When the change in weight and length is similar, the child may be moving toward their genetic potential.[29] Further assessment is needed to rule out other reasons for any change in growth. **NOTE:** Non-breastfed infants tend to grow more quickly in the second six months of life compared to breastfed infants.[26,28,29] Assess **pattern** of weight, linear growth, and the ratio of weight-length as well as whether infant is breast or non-breastfed and if complementary foods have been introduced **before** suggesting changes in feeding.[27,28]	Inappropriate management or intervention is suggested when growth is outside predictable range but is parallel to 50th Additional information has not been sought to establish whether child is exhibiting a normal variation of growth	Normal growth can show a gradual shift that crosses **both** weight and length/height percentiles within the first 2 to 3 years of life as a child moves toward their genetic potential.[26,28,29] An increases or decrease in growth may be an expected result from an issue such as catch up growth after illness, change in feeding practice/behavior, overfeeding, underfeeding, or weight loss due to an illness, but to prevent potential growth disturbances, any change should be reviewed and assessed. Investigate the changes **before** a child crosses percentiles.[26,29] Assist parents in identifying issues or concerns they may have about their infant, toddler, or preschoolers' growth and/or feeding relationship. Identify medical or developmental issues. Once all information is available, based on the assessment:[29] • reinforce that the infant/toddler is growing and developing well • assist parents in understanding expected behaviours and patterns, responsive parenting and the division of responsibility or connect them with appropriate support or referral as needed Referral may be needed if: • Growth is less than 3rd percentile or greater than the 85th percentile • Weight-for-length is greater than the 97th percentile (further assessment recommended) Referral is appropriate if: • Infant's head circumference for age is below the 3rd percentile or above the 97th percentile • There is a sharp upward or downward growth trend over a short period • There is a consistent flat growth trend • There is a questionable growth trend with red flags related to medical concerns of mother or child, development, feeding relationship and/or nutrition *Percentile lines < 3rd and > 97th are not on all growth charts and are only included if relevant to a particular age.*

Expected Standard	Potential Problem	Information to Parents
Infant exhibits age appropriate development as pertains to feeding	Infant, toddler, child does not reach expected developmental milestones	Discuss signs of readiness to introduce solids to an infant. The developmental signs are more important than a specific age or date the infant can sit independently with good head and neck control, has lost the tongue thrust reflex, turn head toward and away from food, shows interest and is willing to take food.[2,11,24,25] Food exposure is still important. Discuss having infant included at the family table during all mealtimes. The interaction around the table begins to build social skills and can increase food acceptance later. The social aspects of eating are important and infants should take part in family meals.[1] Related Standard: **Non-Breastfed Infant 0-6 months NUTRITION – Infant is exposed to family mealtimes, food and eating experiences but introduction of solids is delayed until about 6 months** Related Section: **Complementary Feeding 6-24 months**
	Delayed oral and motor skill development (infant is offered fluids other than formula in a bottle)	When introducing new liquids, other than formula, offer them to the infant in an open cup.[1] (a Sippy cup is not an open cup and is essentially a bottle). An open cup can be introduced to infants when complementary foods are offered about 6 months. Formula can continue to be offered in a bottle, as initially at this age, some infants might have difficulty consuming the same volumes with an open cup.[1] Using an open cup promotes oral and motor skill development and can also help reduce the risks associated with long-term use of bottles such as displacement of nutrient rich solid foods. Transition off the bottle to an open cup should occur at the beginning of a toddlers second year (about 12 months). The complete transition from bottle feeding to drinking from an open cup should occur no later than 18 months of age.[1] Related Section: **Complementary Feeding 6-24 months**

Expected Standard	Potential Problem	Information to Parents
Mother not planning to continue breastfeeding is supported to ensure her infant's nutritional well-being		
• Mother of partially breastfed infant is supported to maintain lactation	Untimely weaning	If the infant does not seem to be getting enough breastmilk, encourage mother to seek professional guidance to increase and sustain partial breastfeeding. Hand expression instructions are available in a variety of handouts. If assistance is needed to adequately learn the technique for hand expression, refer the mother to a Lactation Consultant, breastfeeding clinic or mother-to-mother support group. Advise parents if breastfeeding pumps are available for loan. Breast pumps and hand expression are valuable to ensuring sufficient breastmilk is available for times of mother/infant separation such as when a mother goes back to work. *Related standard in* **Breastfed Infants 6-24 Months – Mother returning to paid work is aware of resources she can access**
• Infant who cannot or should not be fed their mother's breastmilk is offered the appropriate feasible option	Sharing of unprocessed and unscreened donor human milk	**If available and appropriate**, preferred infant feeding is as follows: • breastfeeding • expressed breastmilk • donor human milk • commercial infant formula Access to pasteurized human milk from appropriately screened donors is limited in Canada, commercial infant formula may be the most feasible option.[2] The option depends on individual circumstances. *See this standard in section for* **Non-Breastfed Infants 0-6 Months** Related Standard: **Breastfed Infants 0-6 NUTRITION – Mother recognizes the maternal and/or infant contraindications to breastfeeding and knows what action to take**
• Infant is receiving a commercial infant formula that meets their nutritional needs	Parent chooses a formula other than one recommended for the infant's age and health status	**A regular cow milk-based commercial infant formula is the standard for feeding healthy term infants who are not breastfed, or, who do not have access to screened, pasteurized, donor human milk.[2]**

Expected Standard	Potential Problem	Information to Parents
		A regular cow milk-based commercial infant formula meets the needs of healthy term infants until 9 to 12 months of age.[1] (*9 to 12 months is when pasteurized cow or goat milk can be introduced as part of the infant's food choices*). Other infant formula is recommended for medical or cultural/ religious reasons only.[1,2] Follow up formulas are not superior to regular or starter infant formula[1] and offer no advantage. Follow up formula is not necessary although some are marketed at parents for infants at 6 months and 12 months. Most healthy infants do not need to continue taking infant formula beyond 12 months of age.[1] Soy infant formula would only be recommended for medical reason or for cultural or religious reasons.[2] The infant who must be on soy formula, and does not include cow milk or milk products in their diet, should continue taking soy infant formula for the first two years and not soy milk or other plant based beverage. An infant or toddler who discontinues breastfeeding prior to two years of age and is on a vegan diet should be offered soy infant formula and not soy milk or other plant based beverage until after 2 years of age.[1] In these cases, follow up soy formula may be required to meet the calcium needs of these infants. Homemade formula are not appropriate (e.g. evaporated, cow or goat milk) and put infants at higher risk of iron deficiency, especially in the first year of life.[2] Related Sections: **Non-Breastfed Infant 0-6 months** *and* **Complementary Feeding 6-24 months**
	Adverse food reaction	Formula fed infants who are at high risk of developing atopic disease, may benefit from the use of a hydrolyzed formula compared with cow milk-based formula. Not all hydrolyzed formulas have the same protective effects. Extensively hydrolyzed casein formula may be more effective than partially hydrolyzed 100% whey protein formula.[2,3,4] A dietitian may be able to offer for advice about appropriate formula
	Insufficient iron or iron deficiency anaemia	Infants with a birth weight of less than 3000 g; preterm infants less than 37 weeks gestation; infants born to iron deficient mothers, mothers with diabetes or mothers who consumed alcohol during pregnancy may require additional iron supplement as prescribed by the physician.[2]

Expected Standard	Potential Problem	Information to Parents
		All infant formulas currently on the market are iron fortified and contain 4 mg to 12.2 mg/L iron. Choosing an infant formula fortified to the maximum level may be more appropriate for an infant with low iron stores or at risk of iron deficiency. Infants who are fed homemade evaporated milk formula, cow milk or goat milk are at higher risk of iron deficiency.[2]
	Infant receives a beverage or milk substitute prior to 24 months of age Inadequate intake of • iron • essential fatty acids • protein Excess manganese Electrolyte imbalances	Soy, rice, almond and other vegetarian "beverages", whether or not they are labeled as "fortified", are not appropriate alternatives to infant formula in the first year. Nor should they be used to replace cow's milk until after two years of age. There are no minimum requirements for total fat or protein in milk alternatives and vegetarian beverages. This may put an infant at risk for poor growth.[1] Vegetarian beverages, other than soy, contain virtually no protein and if used as a whole or major source of nutrition may result in rickets, kwashiorkor and failure-to-thrive.[2,5,21] Lower protein and fat levels and excess manganese is associated with the intake of fortified plant based beverages.[21] The infant who is growing normally and eats a variety of family foods that includes breastmilk or cow milk/products can be offered a **full fat, fortified** soy beverage at 12 months of age.[1] Low fat, non-fat and other flavored 'beverages' (soy, rice, nut) are not recommended during the first two years.[1] Rice and almond based beverages are particularly low in protein.[1] Related Standard: **Infant is not offered cow milk or goat milk before 9 to 12 months of age** Related Section: **Complementary Feeding 6-24 months**
• Infant is receiving commercial infant formula in the proper concentration	Parent or caregiver using water to increase fluid intake or replace a formula feeding Weight faltering	Remind parents that an appropriate infant formula will meet their infant's normal fluid requirements for the first 9 to 12 months. Fluid requirement for infants: > 6 months = 100 mL/kg/day for first 10 kg bodyweight add 50 mL/kg/day for babies between 10-20 kg bodyweight add another 10 mL/kg/day for each kg weight over 20 kg

Expected Standard	Potential Problem	Information to Parents
	Excessive or inadequate nutrient intake • High renal solute load • Formula mixed using less water than manufacture recommends may result in dehydration due to excess sodium intake (hypernatremic dehydration) • Formula mixed using more water than manufacturer recommends may result in insufficient calories, protein, fat, vitamins, or minerals	Emphasize the importance of carefully following mixing instructions on label of the formula package to prevent over or under dilution. Powder and concentrate formula are prone to mixing error.[6] • for concentrated infant formula be sure to follow directions for dilution. • for powdered infant formula be sure to use the scoop provided in the package and follow directions re: packing and leveling the scoop. Related Section: **Non-Breastfed Infant 0-6 months**
• Infant is receiving the quantity of commercial infant formula which best meets needs	Excessive or inadequate energy/ nutrient intake due to volume and/or frequency of feeds	Individual infants vary their formula intake depending on size and metabolism. The quantity or frequency of formula gradually decreases as solid foods are introduced. Energy intake is adequate if the infant is growing appropriately as measured by the growth standards. Remind parents and caregivers to allow an infant's appetite to be the guide for the amount of formula to provide.[7] Infants should not be encouraged to empty the bottle.[2] **NOTE:** The average formula intake of infants 6 to 12 months, depending on age and stage, ranges from 290 mL to 1065 mL (10-37 oz) per day (24 hours).[32]
• Infant is not offered cow milk or goat milk before 9 to 12 months of age.	Iron deficiency anemia Folate deficiency	Infants should remain on a commercial infant formula to at least 9 months of age. Whole cow or goat milk is not recommended until 9-12 months of age.[1,2,21] Both cow and goat milks are low in iron and that iron is poorly absorbed. Goat milk is also low in folate and high in protein and electrolytes.[8,9] • The rationale for delaying fluid milk relates to the low iron content in dairy products and the increased risk of iron deficiency. • Anemia (folic acid deficiency) and electrolyte imbalances are associated with whole goat milk intake in infants less than 1 year.[9] • The volume of fluid milk and infant drinks at this age can displace iron rich and nutrient rich foods.

Expected Standard	Potential Problem	Information to Parents
		Once an infant regularly consumes a variety of iron-rich foods, commercial infant formula can be replaced with pasteurized whole cow milk[1] or full fat fortified goat milk.[9] Cow's milk should be limited to 500-750mL (2-3c) per day to ensure fluids do not displace nutrient rich foods.[1] For guidance on the introduction of pasteurized whole cow or goat milk see **Complementary Feeding 6–24 months**. Evaporated milk (whole cow or goat milk) is not recommended for infants under 9 months of age.[2,10] They are not nutritionally adequate. Nutrient deficits increase risk of iron deficiency anaemia and impaired neural development.[2] If evaporated milk is offered at 9 to 12 months, it must be diluted or reconstituted properly.[1] In situations where commercial infant formula is not available for an infant under 9 months of age and evaporated milk is the only option, it must be modified to create an "infant formula" – see a pediatric specialist: • specific recipes need to be used for preparation of the "formula" • vitamin And mineral supplementation is required
• Infant is exposed to family mealtimes, food and eating experiences	Infant is excluded from family meals	Encourage parents to include child at family mealtimes. It helps children socialize and to observe and experience food before learning to eat or trying new foods. Related Standard: **Infant exhibits age appropriate development as pertains to feeding** *in the section of* **Growth & Development (also see non-breastfed 0-6)** Related Section: **Complementary Feeding 6-24 months**
• Infant is offered foods rich in iron among the first foods offered at about 6 months and continues with infant formula until 9 to 12 months of age	Inadequate iron intake Iron deficiency anaemia	Infants need iron-rich foods at about 6 months including meat and alternatives and iron-fortified cereals.[1] Commercial infant formula is an infant's primary source of nutrition for the first year. Related Section: **Complementary Feeding 6-24 months**
Water used in preparation of infant feeds meets current safety standards • Municipal, cold tap water; safe well water; or commercially bottled water (except carbonated or mineral water) is used for formula and food preparation		Care must be taken that the type of water used is safe and free of contamination and pathogens.[32] Parents can check with their health provider, public health officers, or municipality about their local water supply. Related Section: **Non-breastfed Infant 0-6 months**

Expected Standard	Potential Problem	Information to Parents
Safe and sanitary procedures are followed when preparing and storing food and feeding the infant/child	Food-borne illness	Remind parents of proper kitchen, feeding equipment and hand hygiene.[1,32] Wash feeding equipment (bottles, nipples, cups, and utensils), kitchen equipment and counters with hot soapy water and rinse thoroughly or use a dishwasher.[32] **NOTE:** There is no research to support an age at which it is safe to stop boiling water for infant formula preparation.[32] Immune status of infants is highly variable (immune system is still developing); the age where the risk of foodborne illness is lowered is not known.[32] Parents should check with their health provider about this for infants 6 to 12 months of age being fed a commercial infant formula that requires dilution, especially powdered infant formula. Related Section: **Complementary Feeding 6-24 months**
• Infant/child is offered formula, fluids and food at a safe temperature	Scalding from overheating	Heated fluids such as formula should be warm but not hot. Caution parents that care should be taken to avoid scalding, which can occur in less than a second at temperatures of only 70°C.[11] Test on back of wrists.
	Microwave is used for heating	**Using the microwave to heat formula is not recommended**.[2,12] The microwave heats unevenly and can cause hot spots. Use extreme care when heating any food. Use only containers and wraps labeled as microwave safe. Cover the food, then stir and rotate for even cooking. Remind the parents to follow suggested standing times and check carefully for hot spots with a probe thermometer before serving.[12]
• Infant is offered foods that meet national safety standards	Food borne illness • Campylobacter • Salmonella • Yersinia (unpasteurized milk) • Botulism	Only pasteurized milk is safe to use. If home pasteurized milk is used, an alternate source of Vitamin D is required. The fat content of home pasteurized milk may not meet the recommendation that infants/toddlers be offered commercially pasteurized whole milk (3.25%) until at least 2 years of age.[1] Advise parents and caregivers not to give any type of honey to infants less than one year. Honey may be contaminated with bacterial spores that may grow and produce poisons in the baby's stomach. With time children build their own helpful bacteria in the intestine. These helpful bacteria, which are well-established in most children by the time they turn one, act as a defense against the harmful spores that can cause infant botulism.[1,13]
Infant exhibits normal elimination patterns		Related Section: **Non-Breastfed Infant 0-6 months** *and* **Complementary Feeding 6-24 months**

Expected Standard	Potential Problem	Information to Parents
Mother and family have access to enough healthy foods		Food choices based on Canada's Food Guide provide for adequate calories and nutrients. Emphasize the importance of a varied diet. A meal plan should provide the nutrients needed to support mother's health and her family's health.
• Vegetarian mothers have adequate access to nutrient rich foods	Iron deficiency Vitamin B12 deficiency	Liberal vegetarian diets that include some animal foods such as dairy and eggs will generally provide sufficient nutrients. If there are any doubts about the quality of the maternal diet, refer to a dietitian for counseling or consultation. Mothers on a strict vegetarian or vegan diet require vitamin B12 supplementation. Refer mother to a physician and dietitian.
• Mother's weight loss does not exceed normal losses of more than 2-4 lbs per month	Weight loss exceeds normal healthy loss.	Mothers should eat to their hunger and drink to their thirst. Rapid weight loss can potentially lead to fatigue. Help mother identify issues and arrange for counseling and medical support as appropriate.
• Mother of an infant at high risk of atopy receives the support needed		Infants who are at a high risk of developing atopic disease may benefit from the use of hydrolyzed infant formula compared to the regular cow milk-based formula.[3,4] Parents may need advice from a dietitian regarding appropriate formula. An infant at risk for developing an allergy has a biological parent or sibling with a diagnosed atopic disease e.g. asthma, eczema, hay fever, food hypersensitivity.[3,30] While infants with risk factors may be more susceptible to atopy, the factors are not specific or sensitive enough to predict whether an infant will become atopic.[39] **NOTE:** Lactose intolerance is not common and is not an atopic disease (allergy). Related Standard: **Complementary Feeding – A child with a risk of atopy or with suspect food sensitivity receives counseling as medically indicated**
• Income and family resources are sufficient to provide food security for the whole family	Poor food choices related to: • economic hardship • cultural beliefs • medical conditions	Ensure families suspected of being food insecure are connected to the community resources and local food security initiatives. Larger urban organizations that assist with foods security are listed in the **0-6 months sections** Infant formula can cost from $135.00 – $447.00 per month, between 4-12 months, depending on the brand.

Expected Standard	Potential Problem	Information to Parents
Mother and infant take only the recommended supplements as appropriate	Infant exposed to unsafe substances Infant formula intake is being supplemented	Over-the-counter drugs, herbs taken by the mother or given to the infant potentially increase health risks. Dietary supplements or altering the infant formula without the advice or monitoring of a physician, nurse practitioner, or pediatric dietitian may increase health risks.
• Mother achieves and maintains an adequate Vitamin D status	Vitamin D deficiency	Mothers' should consult with their physician regarding supplemental Vitamin D for herself. Foods to include for Vitamin D are salmon, eggs, margarine and cow milk. In northern Saskatchewan, walleye, lake trout and white fish are also good sources of Vitamin D; white fish is lowest in mercury. Partially breastfed infants get some Vitamin D from mothers' breastmilk but her Vitamin D levels depend on her Vitamin D intake from foods and supplements.[20] Related Section: **Non-Breastfed Infant 0-6 months**
• Infant receives adequate Vitamin D	Vitamin D deficiency or excess	Health Canada recommends Vitamin D supplement of 400IU for partially breastfed infants.[1,2] Formula fed infants who drink 1000 mL formula per day will get 400IU of Vitamin D from the formula. Infants who consume less than 1000 mL of commercial infant formula in a day may need a supplement.[19] **See your public health nutritionist for the Vitamin D recommendations chart.** *At the age of 12 months, infants typically replace commercial infant formula intake with cow milk, which provides some dietary Vitamin D.* See this standard within the **Complementary Feeding 6-24 months** section for more Vitamin D information. **NOTE:** Canadian Pediatric Society (CPS) recommends a total Vitamin D intake of 800 IU from all sources (food and supplements) from October to April for those living above the 55th parallel. That recommendation is also for those living between the 40th and 55th parallel **IF** they have other risk factors: e.g. not exposed to enough sunlight or those that have darker skin.[20] ** food would mean infant formula and complementary foods Infants who may have insufficient Vitamin D intake or who may be at high risk for deficiency should be referred to and assessed by their physician.

Expected Standard	Potential Problem	Information to Parents
	Infant aspirates	Medication comes in a variety of forms, dosages, and serving sizes. Choose the form that works for that mother and infant pair. Some babies may find baby D drops® easier to use – as one drop (400IU) can be put directly on the nipple (breast or bottle) before a feed. Baby D drops® can also be put on or in any food.
• Infant achieves and maintains an adequate iron status	Iron deficiency anaemia or excess iron	When solids are introduced at about 6 months (when the infant shows the signs of developmental readiness), offering iron rich and nutrient rich foods is important. Related Section: **Complementary Feeding 6-24 months** **NOTE:** Iron deficiency anaemia and excess iron can have irreversible impact on cognitive and psychomotor development. Infants born at less than 3000 g; pre-term infants (< 37 weeks gestation); infants born to iron deficient mothers, mothers with diabetes or mothers who consumed excess alcohol during pregnancy are at a higher risk for iron deficiency.[2] Infants should be assessed for iron status by a physician.
• Infant receives probiotics and pre-biotics only when medically indicated	Altered gut flora Digestive issues	Probiotics have a good safety profile and there are generally no adverse side effects from their use.[14,15] Probiotics appear to be beneficial for specific health concerns in infants provided that the proper strain, product selections and dosing guidelines of commercial products are followed.[16,17] More research is needed to determine a best dose, strain and duration for a specific use for disease.[18] Advise parents to consult with a paediatrician or appropriate specialist. There might be some benefit in treating antibiotic-associated diarrhea, for example, but the role of probiotics is unproven.[22] Although there are generally no adverse effects from probiotic, immunocompromised patients have shown systemic and local infections caused by some probiotics.[22] Advise the parents to consult with a paediatrician or appropriate specialist. Some infant formulas are supplemented with probiotics however, the routine use of those formulas is not recommended.[23] The research on prebiotics (and probiotics) uses commercial infant formulas with the product included and not as separate supplements. Caution should be taken for products where safety and efficacy is unknown. An infant formula containing the prebiotic has no adverse effects on growth in healthy term infants, but the clinical significance is unclear and not established.[23] The effects and/or safety of any one particular prebiotic product should not be extrapolated to any other product.[23]

Expected Standard	Potential Problem	Information to Parents
		There does not seem to be sufficient research studies testing the use of taking both pre and pro biotics together. The efficacy of supplements that include both pre and pro biotics has not been established.[23]

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Nutrition and Growth Assessment Manual for Infants and Children 2014

Assessment *for* Complementary Feeding 6-24 Months

Feeding Relationship p. 127

A quality feeding relationship exists within the context of a supportive family environment

- Infant takes the lead when first learning to eat solids
- Infant can show cues of hunger and fullness and parents can identify these cues and respond appropriately
- Infant is given the opportunity to self-feed
- Child is offered a variety of healthy foods but given responsibility to decide how much to eat (division of responsibility between child and adult)

Growth & Development p. 132

Child exhibits age-appropriate development as it pertains to feeding

- Infant shows signs of readiness for solids
- Infant can use a munching chew (up and down motion)
- Infant can drink from an open cup
- Infant tries to use a spoon
- Infant is included at the table with others for meals

Infant progresses to more food with more texture based on developmental readiness

- Infant is offered an increasing quantity of food appropriate for age and stage of development
- Infant is offered food with increasing texture and frequency appropriate for age and stage of development

Nutrition p. 137

Infant continues to breastfeed for up to 2 years or beyond with the addition of energy and nutrient-rich complementary foods being offered at about 6 months

- Infant is offered foods rich in iron among the first foods while continuing to breastfeed
- Infant is gradually offered a variety of other nutrient-rich solid foods, besides those rich in iron, during the second half of the first year.
- Infant is offered foods in a way that builds immune tolerance and reduces the risk of food sensitivities

Infant continues to breastfeed for up to 2 years or beyond with the addition of energy and nutrient-rich complementary foods being offered at about 6 months

- Child is not offered cow or goat milk until 9 to 12 months of age
- Child older than a year continues to be offered a variety of nutritious and energy dense foods from the four food groups daily
- Child is offered small, planned meals and snacks throughout the day
- Child under 2 years is not offered soy, rice, almond “milk” or other vegetarian beverages, whether or not it is fortified
- Child is offered juice in moderate amounts only

Safe and sanitary procedures are followed when preparing and storing food and feeding the infant/young child

- Child is offered foods prepared and stored using safe food handling methods
- Child is offered foods which meet national safety standards
- Child is offered foods adapted to age and stage of development to reduce risk of choking

Young children exhibit normal elimination patterns

- Child has regular bowel movements passed without difficulty (consider individual variation)
- Child has odorless straw-coloured (pale yellow or clear) urine

Mother and family have access to enough healthy food

- Food insecure families are made aware of the resources they can access to achieve healthy nutrition
- Mothers on a vegetarian diet receive dietary counseling from a Registered Dietitian
- Mothers of a child fed a vegetarian diet receive dietary counseling from a Registered Dietitian
- A child with a risk of atopy or with suspect food sensitivities receives counseling as medically indicated

Child takes only recommended supplements

- Child receives adequate Vitamin D
- Child is not given fluoride supplements unless medically indicated
- Child is not given vitamin/mineral or iron supplement unless medically indicated
- Child is not given probiotics or prebiotics unless medically indicated

Expected Standard	Potential Problem	Information to Parents
The Division of Responsibility is a key piece of the feeding relationship. Parents are responsible for **what** is offered and as infants grow, they increasingly take responsibility for when and where it is offered. Infants, toddlers, and children get to decide **how much** to eat and **whether** they eat. The 'when' are the planned meals and snacks as children learn to eat from family foods. The 'where' is important and parents should be encouraged to always serve/offer food at the family table. Fundamental to parents' jobs is to trust their children to decide *how much* and *whether* to eat. If parents do their jobs with *feeding*, children will do their jobs with *eating* and learn to become competent eaters. www.ellynsatterinstitute.org		
A quality feeding relationship exists within the context of a supportive family environment	Non-response feeding practices Parent/caregiver have concerns about feeding Eating behaviour problems Increased risk of overweight	Parent or caregiver is given the support needed so feeding goes well. Responsive feeding is embedded in the framework of responsive parenting. Parent-child interaction that are not cue based, responsive, or developmentally appropriate precede feeding difficulties and are associated with poor growth.[22] Studies show that responsive feeding promotes children's interest in feeding, attention to internal cues of hunger and fullness, and an ability to communicate needs to the caregiver leading to a successful progression into independent feeding and eating in a competent and responsible manner.[22,37] A quality feeding relationship exists when the infant/toddler is allowed to achieve growing independence while receiving age-appropriate positive guidance. As infants become toddlers they have a need to explore but they also need set limits without the parents being too controlling. Let parents know that exploring and limiting is normal but can lead to power struggles. Power struggles can cause feeding issues or changes in behaviour and food acceptance such as overeating or under eating. Parents should be aware of their own parenting style and not be too rigid nor too permissive; seek a middle ground when it comes to eating.[1,2] The authoritarian style, which is a very disciplined style that pays little interest to a child's opinions, desires, or capabilities (feeding skills) is associated with a greater risk of overweight in young children.[1,22] This does not mean however, that there are no rules around feeding and eating. Infants, toddlers and children need to learn rules and boundaries as a permissive approach also has negative behavior consequences[1] and no involvement in feeding may result in behaviours to just get attention.[22] Responsive feeding, division of responsibility and minimizing distractions (such as TV) during meals helps to create a quality feeding relationship.[3] Remind parents that feeding times are learning times that include talking and eye-to-eye contact[3] as well as being seated comfortably facing others[22] – whether a child chooses to eat or not.

Expected Standard	Potential Problem	Information to Parents
		The parents or caregivers who do not have confidence in their child's ability to eat or self-feed and those who feel stressed or pressured may turn to the non-responsive feeding practices[22] and may need additional support. Non-responsive feeding practices include too much parental control, pressure to eat, restrict food intake, indulgent feeding, or parent uninvolved during meals.[12]
• Infant takes the lead when first learning to eat solids	Sustained breastfeeding is diminished Mother or caregiver is unsure or controlling about feeding	Remind parents that breastmilk (breastfeeding) is the main source of nutrition for an infant's first year. Continued frequent breastfeeding is protective of child health and breastmilk provides substantial amounts of micronutrients; key source of energy and essential fatty acids.[3] When appetite decreases due to illness, an infant will maintain their breastmilk intake so is it important for preventing dehydration and for recovery from infections.[3] Offer guidance or refer to a lactation consultant etc. so that mother is supported to sustain breastfeeding. For formula fed infants, commercial infant formula is main source of nutrition for the first year. The volume of formula intake gradually decreases as solid foods are introduced and toddlers eat a variety of family foods from all four food groups. Watch for the developmental signs that an infant is ready to try solids. Related Standard: **Growth & Development – Infant shows signs of readiness for solids** Encourage parents to observe very carefully the infant's non-verbal messages/cues.[3] Encourage parents to offer food slowly, beginning with a teaspoon or two and never forcing a child to finish eating food. Some infants try many times prior to accepting a food.[2,4] Food exposure (Operational Definitions) which is an important piece of food acceptance, continues to be a key part of a child's learning. Allow them to see, touch and play with food. Flavour experiences, even early in prenatal and postnatal, play a role in food enjoyment and in cultural and ethnic preferences in cuisine later in life.[4] Related Standard: **Infant is given the opportunity to self-feed** *and* **Child is offered a variety of healthy foods but given responsibility to decide how much to eat** (division of feeding responsibility between child and adult)

Expected Standard	Potential Problem	Information to Parents
• Infant can show cues of hunger and fullness and parents can identify these cues and respond appropriately	Non-responsive feeding	Responsive feeding/parenting and a healthy feeding relationship show respect for individual developmental differences. Ensure parents are aware of the cues and the expected feeding behaviours to watch for and how to respond in positive ways. Being too controlling and not allowing infants, toddlers and children to make their own decisions about what they eat, how much and if they eat can lead to over eating, refusing foods, mealtime battles and an unsatisfactory unhappy feeding relationship. Signs of hunger include opening mouth, leaning toward food, and being interested in what is on the family table. Signs of fullness and/or not being ready to eat do include closing mouth, turning the head away from food, or pushing food away. *see* **Growth and Development** **NOTE:** Resulting potential negative consequences may be excess or inadequate energy or inadequate nutrient intake, which can affect weight faltering.
• Infant is given the opportunity to self-feed	Infant/toddler/child is fed by others	Parents should encourage self-feeding as soon as possible – especially when infants show an interest in trying to feed themselves. Parents can offer foods and fluids by finger, spoon and open cup. Feed based on what the infant, toddler, child can do rather than on infant age. There are developmental signs that occur at approximate age ranges. Between 5-8 months, infants show chewing motions; 5-6 months he can reach for a spoon when hungry or hold a cup with both hands; 8-9 months, use their fingers as a rake to pick up food.[10] Somewhere from 12-24 and 18-24 months, children can spear foods with a fork, and use words to signal requests.[22] It takes time to be good with these tasks and learning to eat can be messy. Infants progress at their own rate so exactly when in those age ranges an infant will start or be proficient at those expected behaviors is individual. It will be important to respect the cultural context in which the infant lives. By 9 to 12 months most all infants have the skills to feed themselves and begin to take an active independent role in feeding but in some cultures self-feeding is not permitted until well after 12 months of age even though there is strong responsive interaction during feeding.[22]

Expected Standard	Potential Problem	Information to Parents
• Child is offered a variety of healthy foods but is given the responsibility to decide how much to eat (division of feeding responsibility between child and adult)	Non-response feeding Mealtime battles Lack of awareness of: • Growth spurts • Food exposure experiences • Picky eating behaviours Forcing (coaxing, bribing) foods on a child Anxiety about food (variety, amount)	This responsibility is called Division of Responsibility, which is related to parenting style. Parenting style and feeding practices can shape eating behavior.[1] Parents roles are to offer a variety of healthy foods – in infancy it is what to eat; as infants begin a transition to family food, parents also take the role of when and where a child is fed; from toddler through adolescence, parents are responsible for what, when, & where children eat. Children are always responsible for how much to eat and whether to eat the foods offered by parents. Parents' guide based on what the infant, toddler, child can do (feeding and eating skills) and not on how old they are. After the first year, it is normal for appetites to drop off as growth slows down and then to pick up during smaller growth spurts. Remind parents that a child is the best judge of how much to eat. Parent's responsibility is to offer healthy planned meals and snacks.[2,5,6] Children's feeding and eating problems are a frequent cause of parent-child conflict. About 35% of children are described by parents as picky eaters yet the majority have an appetite that is appropriate for their age and rate of growth.[2] Most picky eaters are not born that way; parent efforts to make children eat often has an opposite effect. A child may refuse to eat as a way to be autonomous when pressured or forced to eat.[2] In addition, the child who controls the situation – where the parent indulges a child – can lead to children who learn the effectiveness of crying as a way to get a favorite food etc.[22] Parents need to know that if/when an infant rejects or spits food out, it should not be automatically interpreted as not liking it[2,4] or as a sign of poor appetite.[22] An infant may require repeated exposure to new food before accepting it, so reintroduce again in a few days or weeks.[5] Refusing food is also a sign of a child wanting autonomy.[22] This is normal; to want independence and be suspicious of new foods and state with certainty they do not like a usual food when they have eaten it before or a new food when they have not tried it. Time and repeated exposures are ways they learn about new textures and tastes and chewing and swallowing. It is important that parents do not become short order cooks in response to a child refusing foods. They should be offered what is prepared for the family table and then allowed to choose how much to eat or whether to eat. At about 6 to 9 months, children begin to show likes and dislikes of certain foods, be it taste, colour, shape or texture. Remind parents that a child should never be forced, pressured, bribed or threatened to eat.[2,4,5,7]

Expected Standard	Potential Problem	Information to Parents
		Food refusal in toddlers happens if they have, or had, an unpleasant food experience (e.g. reflux, forced eating).[39] Memories can affect feeding behaviour for a long time and conflict over food is stressful and unpleasant.[39] Learning to eat includes many experiences like seeing what adults and siblings eat; looking at food; smelling food; touching and playing with food; tasting and spitting; tasting and swallowing; eating one bite and stopping; and changing his mind about what he likes. It can take a dozen exposures to a food before a child will try. Offer and serve family foods at the family table and children will learn to eat and enjoy. Being at the family table is a social experience as well and it allows family members to model healthy habits.[5]

Expected Standard	Potential Problem	Information to Parents
If an infant, toddler, child does not meet expected developmental milestones, screen and refer to the appropriate health professional(s) and specialist(s)		
Child exhibits age-appropriate development as it pertains to feeding	Infant does not reach expected developmental milestones Excess or inadequate nutrient intake Eating behaviour problems	Reinforce the importance of family mealtimes and including all family members at the table. This is a vital piece of building socialization, skill development and food acceptance. Setting these routines, modeling mealtime behaviours and showing that healthy choice applies to the whole family is part of responsive feeding.[22] Make parents aware of the normal physical and social milestones as they pertain to feeding. Discuss the expected tasks a child can do at various ages and what parents' jobs would be in optimal feeding as well as motor skill development as it relates to food handling. Remind parents to watch for normal eating behaviours associated with the changing milestones such as changing growth rate, curiosity, autonomy and mobility. Encourage parents to offer and present family foods in ways that are positive.
• Infant shows signs of readiness for solids	Delay of progression from suckling to spoon feeding	The introduction of solids and other liquids before an infant reaches 12-17 weeks of age should be **strongly discouraged**.[4,38,29] The early introduction of complementary foods may be associated with adverse health consequences in later life and it is not associated with any health benefit.[38] Ask parents what sign(s) they have noticed that tell them their infant is showing readiness for solids.[6] Readiness for complementary foods varies widely.[11] • they sit independently with good head and neck control • they can hold some food in their mouth without pushing it out right away (lost the tongue thrust reflex) • they lean forward and open their mouth when they are interested and hungry • they show fullness by leaning back, turning head away, fussing or crying • they show interest in the food others are eating and are interested in eating The obvious change in motor function occurs between 5 and 8 months of age when infants' transition from suckling to chewing.[10] An infant's coordination is sufficient to start spoon and/or finger feeding when solids are introduced when they are ready as above. An open cup can be introduced at about 6 months as well for fluids such as water.

Expected Standard	Potential Problem	Information to Parents
		Remind parents that feeding skill from 6 months on depends on the development of: • Gross motor skills (e.g. the ability to sit) • Fine motor skills (e.g. the ability to pick up small items) • The ability to see (e.g. coordinate hand to mouth movements) • Dental/oral development (e.g. the ability to chew or bite)
• Infant can use a munching chew (up and down motion)	Feeding and behaviour problems due to inappropriate expectations	A munching chew, or up and down motion, is first learned at about 6 to 9 months. Rotary or circular chewing only develops at about 18 to 24 months.[6] Chewing ability does have influence on a child's acceptance of texture foods such as meats. Children younger than 3 can have difficulty eating at this developmental age and stage. While children may have the motions, they lack the ability to consistently and effectively chew food into manageable pieces.[25] Remind parents of what a child is capable of and what to expect. Feed based on what a child can do and not on age alone. Responsive feeding and responsive parenting.
• Infant can drink from an open cup	Self-feeding is discouraged	Encourage feeding fluids, other than formula and breastmilk, from an open cup at about 6 to 9 months. Whole milk in an open cup can be introduced between 9 and 12 months. By this age most infants have the manual skills to drink from an open cup using both hands.[5] Using an open cup for fluids reduces the risk of tooth decay and consumption of excess calories, which is associated with bottle feeding.[5] Open cups also promote oral and motor skill development and reduce night time bottles.[5] The transition to remove the bottle can begin once infant formula is discontinued at about 12 months. The transition from bottle feeding to open cup feeding should occur no later than 18 months of age. This promotes mature oral and motor skill development.[5] If and when bottles are used, parents should ensure infants and toddlers to not roam or sleep with a bottle.[5] Carbohydrates rich liquids, such as milk and juice, that bathe the teeth over long periods can cause early childhood tooth decay.

Expected Standard	Potential Problem	Information to Parents
• Infant tries to use a spoon	Delayed development of eating skills	At about 9 to 12 months an infant may try to use a spoon to eat; this is part of self-feeding and should be encouraged. Use utensils that are safe and appropriate for an infant; such as a child sized plastic spoon. Reassure parents that continuing to enjoy using hands to eat foods is normal. Parents can guide but learning to handle a spoon effectively may not occur until about 2 years. Mess is part of learning how to eat and the feeding process. Parents are encouraged to anticipate and plan for it.[5,6] Parents should wait until after their child is finished eating to wash and clean up.
• Infant is included at the table with others for meals	Limited acceptance of new foods Delayed development of eating skills	Encourage parents to include infant at family mealtimes. This helps a child learn to socialize, to experience food before learning to eat (or accept new foods) and build new skills through imitation. Children must be supervised at all times while eating. By 9-12 months, most infants eat food prepared for the rest of the family, with some adaptations.[4,5,6] Emphasize the importance of preparing and serving healthy family foods. Offer the child what is on the family table and children will learn to eat and like most family foods.
The infant progresses to more food with more texture according to developmental readiness		To sustain breastfeeding while introducing complementary foods at about 6 months, it is important to start by offering small amounts of food and increasing the quantity as the child gets older while maintaining frequent breastfeeding.
• Infant is offered an increasing quantity of food appropriate for age and stage of development	Inadequate energy or nutrient intake Constipation	The energy needed from complementary foods for infants with average breast milk intake, (**estimated** for industrialized countries like Canada), is:[3] about 130 kcal a day at 6 to 8 month about 310 kcal a day at 9 to 11 months and about 580 kcal a day at 12 to 23 months of age Estimated calorie amounts given above pertain to infants who have been exclusively breastfed and continue to breastfeed while complementary foods are introduced at about 6 months. The actual energy requirement from solids will differ if/when an infant breastfeeds more or less than average.[3] These values may be a little higher in partial breastfed or formula fed infants during the first year.[8] Regardless of feeding choice or energy estimates, the energy requirements of children will depend on, and should support, their rate of growth.[3,8] By about 11 months of age, complementary foods contribute nearly half of the infants energy requirements.[5]

Expected Standard	Potential Problem	Information to Parents
		Regardless of type of feed or combination of milk feeds, the calories needed from solids and other liquids vary depending on a child's individual growth rate, activity and appetite. Remind parents to offer healthy foods while watching for the cues of hunger and satiety. Also remind them to respond accordingly (responsive parenting and responsive feeding). Always let the child's cues and appetite guide the food amount but regular growth monitoring during the first two years helps ensure that the child is growing along their normal curve.[12] Parents may need help with recognizing a child's cues and behaviours to determine how much food to offer, to avoid potential under or over feeding.[12]
• Infant is offered food with increasing texture and frequency appropriate for age and stage of development	Feeding difficulties Delayed acceptance of more textured foods Diminished motor skills Speech/language delays	The gradual transition to foods with more texture plays a role in the infant's food preferences. There is evidence that infants who are introduced to lumpy foods by 9 or 10 months are more willing to move on to the more complex textures of diced or chopped foods.[3,5,9,10,11] Infants should progress to a variety of textures modified from family foods by 1 year of age.[5,37] Make parents aware that the oral structures that help with chewing and swallowing are also used for articulation, speech, and verbal expression. Gagging is a natural reflex[5] that should be discussed with parents. *Below is a guide introducing texture into the infant's diet as s/he develops mobility and skills to self-feed.*[3,5,6,11] **When an infant can sit without support and with good head and neck control** he is ready for mashed, semisolid foods **When an infant crawls** he is ready for ground or soft mashed foods with soft lumps and crunchy foods that dissolve, such as whole grain crackers **When an infant walks** he can eat coarsely chopped foods with more texture, bite-sized pieces of food and a variety of finger foods *Guide to frequency of complementary feeding.*[3,6,12] **For infants 6 to 8 months** – offer complementary foods in 2 to 3 regular meals and 1 to 2 snacks each day **For infants 9 to 11 months** – offer 3 regular meals a day with 1 to 2 snacks Always let the child's cues and appetite guide the food amount but regular growth monitoring during the first two years helps ensure that the child is growing along their normal curve.[12]

Expected Standard	Potential Problem	Information to Parents
		Related Section: **6-24 Months Breastfed and Non-Breastfeed Infants Growth and Development** (for information about the serial measures and healthy growth and development). Parents may need help recognizing their child's cues and behaviours to determine how often and much food to offer, to avoid potential under or over feeding.[12]

Expected Standard	Potential Problem	Information to Parents
Infant continues to breastfeed for up to 2 years or beyond with the addition of energy and nutrient rich complementary foods being offered at about 6 months	Inadequate energy Nutrient deficiency/nutritional risks Developmental risks	The introduction of solids and other liquids before an infant reaches 12-17 weeks of age should be **strongly discouraged**.[4,38,29] The early introduction of complementary foods may be associated with adverse health consequences in later life and it is not associated with any health benefit.[38] Remind parents that breast milk is nutrient-dense and is the main source of nutrients and energy during the first year as other solids and liquids are introduced. When an infant is partially breastfed, a mother is supported to maintain or improve lactation.[4] In the second 6 months, breastfeeding alone is not sufficient to meet all the infant's nutritional needs and complementary feeding must begin.[4,5] Refer mother as required so that breastfeeding/ breastmilk is sustained. For non-breastfed infants, infant formula is the main source of nutrition until 9 to 12 months of age. 9 to 12 months is when pasteurized cow milk can be introduced.[5] At about 6 months, infants, whether breast or formula fed, are physiologically and developmentally ready for new foods, textures and modes of eating (such as an open cup, fingers, spoon).[3] Complementary feeding begins with offering nutritious family foods in a way that is safe and easy for an infant to eat.[5] For guidance on texture progression see related section: **Complementary Feeding – Growth and Development**
• Infant receives foods rich in iron among the first foods offered while continuing to breastfeed	Inadequate iron intake Iron deficiency anaemia	Infants need iron-rich foods at about 6 months including meat and alternatives and iron-fortified cereals.[5] Iron from meat is better absorbed than iron from plant based foods. Foods rich in vitamin C facilitate iron absorption. Plant-based food alone are not sufficient to meet the needs for certain nutrients such as iron during the first two years.[3] Meat, fish, poultry or meat alternatives should be offered at least once a day.[5,37] Between 6 and 12 months, iron rich foods should be offered two or more times each day; from 12 months and older, iron-rich foods should be offered at each meal.[5] Iron rich foods include: red meats, poultry, fish, eggs, legumes such as lentils and infant cereals. Related Standard: **Child is offered foods which meet national safety standards** (for advice on fish specifically).

Expected Standard	Potential Problem	Information to Parents
• Infant is gradually offered a variety of other nutrient-rich solid foods, besides those rich in iron, during the second half of the first year	Nutrient deficiencies: iron, calcium etc. Restricted foods or food groups Inadequate energy	Infants need nutrient-rich foods including a variety of vegetables, fruit, grains, and meat alternatives – all of which can gradually be introduced between 6 and 9 months in no specific order. It is suggested that milk products (cottage cheese, shredded hard cheeses, and yogurt) can be introduced at about 9 months. Dietary fat restriction during the first two years is not recommended. Children need the energy and essential fatty acids (omega-3 and omega-6 fats).[5] This can adversely affect growth and development and there is no evidence that fat restriction provides any benefits during childhood. Nutritious foods that contain fat, such as breastmilk, whole cow milk, cheese, avocado and nut butters, give a concentrated energy source for children during a life stage when their requirements are particularly high.[5] Parents can prepare their own baby food using healthy family foods and ingredients enjoyed by the rest of the family. They should avoid adding sugar, salt or coatings. Plain foods that are prepared simply allow young children to experience the natural flavour of food.[5]
	Higher threshold for sweet and salty tastes in later life as well as potential health conditions	If parents choose to offer foods that are prepackaged/commercially prepared foods, encourage parents and caregivers to read and compare food labels and choose foods lower in added sugar and/or salt (sodium).[5] Offering foods without added sugar and salt sets the taste threshold for sweet and salty tastes and helps set food preferences in later life as well as having health benefits.[4,6] Early food experiences or exposures, which can set later food choices, are important to establish life-long food habits. Preference is a function of exposure and preference can predict food choice and intake in children.[27] Infants learn through diet experience to prefer what was offered by their parents.[4] Early exposure to sugar sweetened food can led to an increased preference for sweet or sweetened food and a preference for higher levels of sugar in food.[6,26] Low calorie sweeteners may also influence preference, diet quality and body weight as it disrupts the balance between appetite and consumption, especially during development.[26] It is also shown that this taste development applies to salt/sodium. Infants exposed to salty tastes showed greater salt acceptance and an increased preference for salty[6] and higher sodium starchy foods as toddlers.[27]

Expected Standard	Potential Problem	Information to Parents
• Infant is offered foods in a way that builds immune tolerance and reduces the risk of hypersensitivity	Hypersensitivity and food intolerances	Remind parents, when introducing solids at about 6 months, to offer small amounts and single foods before mixtures. For example, chicken then a few days later carrots rather than a casserole. Parents should offer new foods about 2 to 5 days apart. This way, if there is an adverse reaction, it will be easier to identify which food may have caused the reaction.[4,13] There is no convincing evidence that a pregnant woman, lactating woman or infant older than 6 months should avoid or delay the introduction of potentially allergenic foods other than to those foods that are a confirmed (diagnosed) allergy.[13,14,15,16,29] Avoiding potential allergens to prevent allergies is not practical or effective.[15,23] Some foods are more allergenic than other foods and include cow milk, eggs, fish, nuts, seafood, wheat and soy.[4,5,6,14,15] Still, introduction of these foods should not be delayed.[29] Families with strong histories of diagnosed atopy or food sensitivities may need to be especially observant when introducing these foods. They should be part of what is offered regularly and frequently to maintain tolerance.[29] Allergy is not prevented with late introduction[16] and waiting to try a food may increase the risk of developing a food allergy.[14,15,29] Risk factors for atopy include having a biological parent or sibling with a diagnosed atopic disease such as asthma, eczema, hay fever and food hypersensitivity. Testing for an allergy (skin or blood) before the child has actually eaten a particular food is not recommended by the Canadian Pediatric Society (CPS) because of the high risk of false-positives.[29] **NOTE:** Many children outgrow the food allergies especially when that sensitivity surfaced before the age of 3.
• Child is not offered cow or goat milk until 9 to 12 months of age	Inadequate or excessive energy intake Iron deficiency or Iron Deficiency Anaemia	Caution parents that cow milk and/or goat milk should not be used as a main drink prior to 9 to 12 months.[5] Some infant nutrition groups recommend that it should not be the main drink prior to 12 months due to its poor iron content and the potential for adverse health effects in the short and long term.[4,28] Cow milk is low in iron[4,5] and goat milk is low in iron, folic acid and essential fatty acids.[5] Early introduction of milk can cause gut bleeding and an infant's typical milk intake displaces solid foods and inhibits iron absorption.[5] • The rationale for delaying fluid cow milk relates to low iron content in dairy products and the increased risk of iron deficiency. • Goat milk is low in folate and high in protein. Anemia (folic acid deficiency) and electrolyte imbalances associated with whole goat's milk intake in infants less than 1 year.

Expected Standard	Potential Problem	Information to Parents
		Related Section: **Non-Breastfed Infant 6-24 Months** After 9 months, when and if the infant is eating a wider variety of solid foods, that includes iron-rich meats, alternatives and cereals, cow milk can replace commercial infant formula.[5] (Remind parents that follow up formula is not necessary and most infants do not need infant formula after 12 months of age). Breastfeeding, which has long term health benefits for mother and child, can continue to 2 years and beyond. Remind parents that the milk **must be pasteurized**, whether cow or goat, and that their infant should be eating a wide variety of foods. After the first year, limit fluid milk intake to 500-750 mL (16-24 oz) per day so that children do not fill up on fluids and then not eat family foods.[5] Offering milk in an open cup helps reduce a child drinking too much.[5] Infants can start to learn to drink from an open cup at 6 months. Offer water in small amounts by open cup starting at about 6 months. At 9-12 months, offer fluid milk by open cup. All fluids, except breastfeeding, should be offered in an open cup when an infant is 12 months of age and by no later than 18 months. Whole or homogenized (3%) cow milk is recommended for children throughout the second year. Partly skimmed 2% milk is acceptable provided that a child is growing well and eating a wide variety and adequate quantity of food.[5] Lower fat milks (1%, skim) and plant-based beverages are not suitable alternatives in the first two years. Children diagnosed with milk sensitivity should follow dietary modifications given by physician and/or dietitian. Non-IgE mediated reactions tend to resolve between 6 and 18 months and regular frequent ingestion helps maintain immune tolerance. See adverse food reations in Operational Definitions.
• Child older than a year continues to be offered a variety of nutritious and energy dense foods from the four food groups daily	Inadequate energy and/or nutrients Iron Deficiency or Iron Deficiency Anaemia Low nutrient absorption due to high fibre diet	While children get to decide whether they eat and how much they eat, a young child cannot instinctively choose a well-balanced diet and how well they eat and respond depends on the feeding relationship. Remind parents of the division of responsibility and emphasize to the parents the importance of **offering** the young child foods rich in nutrients and sufficient energy for meals and snacks.[5] In the first year, infants may need to be offered 4-5 meals and 1-2 snacks a day.[37]

Expected Standard	Potential Problem	Information to Parents
	Weight faltering	Continued variety exposes children to a wide range of colors, flavours and tastes and helps influence their food preferences in the future.[4,6,27] Remind parents it is normal for children to change their mind about what they do and do not like from day to day and week to week. It is important to set the boundaries and be a responsive feeder so that children learn to be competent eaters. Factors that help with healthy growth and development include offering appropriate foods, not restricting foods or food groups or overly coaxing a child to eat or clean their plate as well as reducing the mealtime distractions, and eating at the family table not in front of the TV. Nutritious foods that contain fat such as breastmilk, whole cow milk, cheese, peanut butter, eggs and avocado provide concentrated energy for children during this stage when their needs are high. Caution parents not to restrict these naturally higher fat foods during the first two years.[5] Remind parents that fluid milk intake should be limited to 500-750 mL (16-24 oz) per day so that children do not fill up on fluids and not eat family foods.[5] Too much fluid milk can affect iron intake and absorption. Offering milk in an open cup helps reduce a child drinking too much.[5] Encourage moderate intake of fibre including whole grains, vegetables and fruit. A diet too high in fibre and too low in fat will not provide enough energy and essential fatty acids a young child needs for healthy growth and development.
• Child is offered small, planned meals and snacks throughout the day	Inadequate energy and/or nutrients	Emphasize that planned meals and snacks from healthy family food options are an important part of the menu pattern. Children have small stomach capacity and high energy needs. Emphasize the importance of nutritionally healthy meals and snacks. Check with the Dental Health professional for advice on oral health and brushing to reduce the risk of early childhood tooth decay.
• Child under 2 years is not offered soy, rice, almond "milk" or other vegetarian beverage, whether or not it is fortified	Nutrient deficiencies • fat • protein • iron • calcium Weight faltering	Soy, rice, almond and other plant-based beverages, whether or not they are labeled as "fortified", are not appropriate for children under 2 years and should not be used as alternatives for breastmilk, infant formula, or whole milk.[3,4,5] Fortified plant based beverages may be fortified with vitamins A, D and B12, riboflavin, calcium and zinc and may contain other vitamins and minerals but most do contain adequate protein. There are no minimum requirements for total fat or protein in in these plant-based beverages. This may put a child at risk for poor growth.[5,17]

Expected Standard	Potential Problem	Information to Parents
		If plant-based beverages are used as a whole or major source of the child's nutrition there is a risk of rickets, kwashiorkor and/or failure-to-thrive.[5,30] Lower protein and fat levels and excess manganese is also associated with the intake of fortified plant based beverages.[30]
• Child is offered juice in moderate amounts only	Excess energy intake Nutrient deficiency Low fibre intake Diarrhea from excess intake of fructose and sorbitol in fruit juices Early Childhood Tooth Decay (ECTD)	Remind parents that juice refers to 100% fruit or vegetable juice – not fruit drinks, tea, coffee, iced tea, herbal teas, lemonade, punches, pop, beverages or sports drinks. These are unacceptable choices that are typically high in sugar and low in nutrients filling small stomachs quickly.[5,18] Parents and caregivers should delay offering juice until a child is able to drink from an open cup.[16,17] Using an open cup helps with offering the appropriate portion and limits to juice intake. Discourage the practice of putting a child to bed with juice in a bottle or using it as a pacifier during the day. These practices bathe the child's teeth in carbohydrate rich fluids and can increase the risk of tooth decay. Limit the amount of juice to 125-175 mL (4 – 6 oz) a day.[8,18,19] Some parents will dilute juice for a variety of reasons such as to make the serving size bigger. While it has been common practice to dilute juice, there is no clear rationale for this.[9,19] Emphasize vegetables and fruit instead of juice; as recommended in Canada's Food Guide. Fruit juice lacks the fibre of whole fruit. Fruit juice intake may replace other nutritious foods leading to inadequate intake of needed nutrients.[5] Too much fruit juice can lead to diarrhea from the fructose and/or sorbitol. Encourage parents to offer water when a child is thirsty. They should limit the amount of juice offered.
Safe and sanitary procedures are followed when preparing and storing food and feeding the infant/young child	Food borne illness	Infants and young children are vulnerable to food-borne illness.[5,37] • Remind parents of proper hand hygiene. It is not necessary to use anti-bacterial products. Regular soap and water is sufficient. • Remind parents of washing procedures for equipment, tools and surfaces. • Prevent cross-contamination and use food safe disinfectant as required. • Purchase commercially pasteurized milk, dairy products and fruit juice • Encourage easy and safe cooking and storing methods.

Expected Standard	Potential Problem	Information to Parents
		Children under 5 are at an increased risk for complications from food borne illness. Symptoms can vary from mild stomach ache, vomiting, diarrhea and fever/chills to extremely severe illness requiring hospitalization. Foodborne illness can also lead to dehydration because children's bodies are small and they can lose a high percentage of body fluid very quickly.
• Child is offered foods prepared and stored using safe food handling methods	Bacterial contamination: • botulism • salmonella • listeriosis • E. coli	Advise parents not to give honey to a child less than a year old.[5] Don't add honey to any food served to an infant and do not put honey on a pacifier.[5] Even when honey is pasteurized, it can contain spores that cause infant botulism. Healthy children over one year of age can safely eat honey as they have a low risk of developing botulism. Discourage allowing children to eat any products containing raw egg such as cookie dough and cake batter or homemade mayonnaise.[5] An egg with a cracked shell can transfer salmonella from the surface to the egg contents. Eggs should be pasteurized or well-cooked to reduce the risk of salmonella. Wash vegetables and fruit with cool running water before cutting, cooking and serving. Advise parents that children under the age of 5 should not eat raw or under cooked sprouts as they may carry salmonella and E. Coli. Raw and/or undercooked meat, poultry or fish should never be served to infants and young children.[5] Meat like ground beef should always be well done to help prevent illness from E. coli.
	Methemoglobinemia	Homemade purees of mixed vegetables should be prepared for immediate use. These should be kept frozen when consumption is delayed more than 24 hours.[21]
• Child is offered foods which meet national safety standards	Unpasteurized products	All dairy products and juices should be pasteurized. Pasteurization is a process that uses heat to kill harmful bacteria. In milk it is done in a way to retain the nutritional properties and ensure the milk is safe. Unpasteurized juice can be contaminated with bacteria or viruses that can lead to illness or death in vulnerable individuals.[3,5]
	Exposure to an unacceptable amount of mercury	Fish can be part of the introduction of solids at about 6 months as one of the iron and nutrient rich food choices to offer. Fish is a good source of omega-3 fats and Vitamin D.[5] Fish choices include canned light tuna (not white), cod, sole, salmon and trout.

Expected Standard	Potential Problem	Information to Parents
		There are fish species that have higher levels of mercury and should be limited in the diet. Health Canada states that it is unlikely that infants under 1 year of age will eat enough fish to pose a health risk however: If fish such as fresh or frozen tuna, shark, swordfish, escolar, marlin, orange roughy, and canned albacore (white) tuna is offered to infants less than 1 year of age, limit it to 40g a week for canned white tuna and 40g a month for the other fish listed. Children between 1 and 4 years of age should not eat any more than 75g a week of canned white tuna and 75g a month of the other fish species listed. Children between 5 and 11 years should not eat more than 150g canned white tuna a week and 125 g a month for the other fish listed. See Health Canada for food safety and chemical contaminants for the latest safety information on fish consumption.
• Child is offered foods adapted to age and stage of development to reduce risk of choking	Choking or asphyxiation by food	Children need to be sitting and supervised when eating. Parents should modify foods they offer to suit a child's chewing and swallowing skills. Serve food in a form and a texture a child can handle and prevent choking hazards. Related Section: **Complementary Feeding – Growth and Development** As solid foods are introduced, infants may experience a gag reflex. This happens as they learn how to move solid foods from the front to the back of the mouth. Gagging is normal and part of learning how to eat. As long as the infant is sitting upright and concentrating, the risk of choking is the same as that of an adult.[5]
Young children exhibit normal elimination patterns		Stool habits vary widely from child to child. Stool colour can also vary, but becomes brown as infants gradually eat family table foods.
• Child has regular bowel movements which are passed without difficulty (considering individual variation).	Parental perception of constipation	Remind parents that stool habits vary widely from child to child. Infrequent stooling does happen. Within normal bowel function there is a range in consistency and frequency of stool. Changes in stool consistency and bowel frequency occur during the transition from breastfeeding or infant formula to a diet of family foods. Regular bowel movement patterns will develop for each child.

Expected Standard	Potential Problem	Information to Parents
	Constipation	When stools are passed less often than what is usual and are hard and dry, difficult or painful to pass, constipation may be present. Constipation may be due to dietary issues such as: • a low fibre diet that does not include enough whole grains, vegetables and fruit. • too much milk, juice, or other dairy products. Too much fluids or dairy replaces other foods that help the bowels work well. • not enough physical activity. • medications. Constipation may also be "functional" which is when a child holds or stops a bowel movement from occurring. This might happen when they are afraid to use the toilet (potty) or if there is a crack/tear/rash around the anus, causing pain or discomfort. Remind parents to introduce solids gradually. Offer a variety of whole grain breads and cereals; fruit such as apple, banana and berries; vegetables; and cooked legumes such as split peas and lentils. Remind parents to offer foods in a form appropriate to the developmental age of the child. A history and physical examination is needed to rule out medical reasons or causes for constipation. Non-medical reasons also require investigation. In addition, a child with development or behavior issues (e.g. mental retardation, autism, or depression) may be taking constipating medications. For constipation in children over one year, refer to a physician.
	Diarrhea, acute	Diarrhea is a common problem in infants and young children. It is usually mild and brief. Acute diarrhea lasts less than 1 week (Operational Definitions). Diarrhea may be caused by bacteria, viruses, parasites, medication, functional bowel disorders and food sensitivities. Infection with rotavirus is the most common cause of childhood diarrhea. The main treatment for diarrhea is to ensure adequate fluid intake and to replace lost body fluids (made up of water and salts). Vomiting and diarrhea can cause a loss of too much body fluids leading to dehydration. • For breastfeeding or breastmilk fed infants, continue to feed on demand. Offer foods a child usually eats at meals and snacks. Remind parents that a child may not feel like eating solid foods but to offer and watch child's cues. • For the formula fed infant, do not dilute the formula. Feed as per usual routine. Also continue to offer foods the child normally eats as above. If the infant is not feeding well, refer to appropriate health provider.

Expected Standard	Potential Problem	Information to Parents
	Dehydration	Signs of dehydration include decreased urination, increased thirst, no tears, dry skin, dry mouth and tongue, faster heartbeat, sunken eyes, grayish skin, sunken soft spot on baby's head. Breastmilk or formula (as under Diarrhea above) is an important sources of fluid and electrolytes as well as nutrition. Infants and children who do not feel well enough to eat foods typically continue to breastfeed. CAUTION parents that they **avoid** giving drinks such as fruit juice, sweetened fruit drinks, carbonated drinks (pop/soda), sweetened tea, broth or rice water. These have the wrong amounts of water, salt and sugar and can make diarrhea worse. Offering plain water is also not enough and may lead to low sugar or low sodium levels in the infant's blood. Parents need to consult with a physician if the child has bloody or black stools, is still vomiting after 4 to 6 hours, has diarrhea and a fever with a temperature higher than 38.5° C (101.5° F), has signs of dehydration (see above), or has stomach pains that are getting worse.
	Diarrhea, chronic	Diarrhea lasting more than 14 days is considered chronic. It can be caused by many factors both medical and dietary. Those include malabsorption, immune deficiency, and lactose intolerance or too much juice (Operational Definitions). Parents should be encouraged to see a physician or pediatrician for chronic diarrhea.
• Child has straw-coloured urine (pale yellow or clear)		If the urine frequency, volume or color is not what is normal for a child (voiding is inadequate), review the child's fluid and food intake. Ask parents questions about the child's health and activity level as well as check for signs of dehydration, illness, vomiting, and diarrhea.
Mother and family have access to enough healthy foods		Food choices that are based on Canada's Food Guide provide adequate calories and nutrients. Emphasize the special importance of a varied diet. Further information on potential nutritional inadequacy and food security are covered under similar sections in **Breastfed and Non-Breastfed Infants 0-6 Months**. Lack of adequate food can stunt a child's growth, reduce the resistance to infection, increase medical costs and avoidable hospitalizations and can affect a child's ability to learn. Families may need assistance connecting to community supports and other services.

Expected Standard	Potential Problem	Information to Parents
• Food insecure families are made aware of resources they can access to achieve healthy nutrition	Inadequate food intake due to poor quality or quantity of food	Food security means having access to enough healthy foods without experiencing difficulty meeting other family needs. Income is a determining factor for ensuring adequate healthy foods in a household. Ensure families with children suspected of being food insecure are connected to social and community resources and local food security initiatives which support them.
• Mothers on a vegetarian diet receive dietary counseling from a Registered Dietitian	Mother is at risk of deficiencies • vitamin B12 • iron • zinc • calcium etc.	Mothers following a vegan diet must take the appropriate supplements and those following a vegetarian diet may need supplements. Pregnant and lactating women whose diet does not include sufficient vitamin B12, have infants with greater risk of B12 deficiency.[24] Vegan mothers must include B12 fortified foods and/or a supplement.[24] Vegetarian diets that include dairy products and eggs, will get a reliable source of vitamin B12.[24] Vegans and vegetarians are at greater risk for iron deficiency and have lower heme iron intake and lower iron status than non-vegetarians.[24] Diets that exclude animal products may be deficient in vitamin B12 especially if dairy, eggs, and fortified foods are not included or are limited.[24] If there are doubts about the quality of the maternal diet, refer to a Registered Dietitian for additional counseling or consultation.
• Parents of a child offered a vegetarian diet receive dietary counseling from a Registered Dietitian	Infant/child is at risk for deficiencies: • energy • protein • vitamin B12 • Vitamin D • calcium • riboflavin Infant at increased risk of weight faltering, fat and muscle wasting, and slower psychomotor development	Infants and young children should not be on a vegan diet that excludes all animal products including milk and milk products, meat, fish and eggs.[3,4,5] If inadequate amounts of animal source foods are consumed, special counseling by a dietitian is needed to ensure adequate intake of calcium, iron, zinc and other micronutrients including vitamin B12.[4,5] Diets without any animal sourced foods cannot meet all the nutrient needs for children in this age.[37] Children being offered a vegetarian diet should also receive about 500ml of milk and dairy products.[4] Milk can be either breastmilk or formula. Pasteurized cow milk may be introduced 9-12 months of age. A child offered a vegan diet, and is not breastfed, should be fed a commercial soy infant formula.[24] Vegan children and children not on any breastmilk or milk products should remain on soy formula until 2 years of age at which time they may transition to a plant based beverage. Plant-based complementary foods alone are insufficient to meet the needs for certain micronutrients during the first 2 years.[3,37] If there are any doubts about the quality of a child's diet, refer the parent to a Registered Dietitian for additional counseling and consultation.

Expected Standard	Potential Problem	Information to Parents
• A child with a risk of atopy or with suspect food sensitivities receives counseling as medically indicated	Infant/toddler/child does not receive an appropriate nutritional intervention Unnecessary food or food group restrictions Food hypersensitivities	Risk factors for atopy are having a biological parent or sibling with a diagnosed atopic disease e.g. asthma, eczema, hay fever or food hypersensitivity.[16,29] Total avoidance or delaying the introduction of potential allergens as a preventative measure is not practical and does not reduce allergies.[4,10,14,15,16,23,29] While infants with risk factors may be more susceptible to allergies, the factors are not specific or sensitive enough to predict an allergy.[23] There is no benefit to delaying introduction of specific foods or trigger foods, including those that are highly allergenic proteins, to prevent a food allergy from developing.[29] Late introduction may actually increase the risk of developing an allergy. Regularly eating of new potentially allergenic foods several times a week may be important as is the age at which foods are first introduced.[29] The way the immune system builds tolerance tends to support regular frequent ingestion of foods. Some of the literature suggests that touching food may also have a role in educating the immune system and build tolerance see Food Exposure: Operational Definitions. If atopy is suspected, refer parents to their physician to confirm atopy and specific food allergies so the family is counseled by a Registered Dietitian especially if there are dietary restrictions. Ensuring diet quality and nutrient adequacy is important. The Canadian Pediatric Society states that routine skin testing and IgE blood testing (to check for a potential allergy) before a first ingestion is not recommended due to false-positive results.[29]
Child takes only the recommended supplements	Infant exposed to unsafe substances Infant formula intake is being supplemented Infant being given supplements that are not medically necessary	Over-the-counter drugs, medications or herbs taken by a mother while breastfeeding or given to an infant can potentially increase health risks. Supplements and altering formulas without the advice or monitoring of a physician, pediatric dietitian or other qualified health professional may increase health risks. Related Sections: **Breastfed** *and* **Non-Breastfed Infants 0-6 Months** *and* **6-24 Months**

Expected Standard	Potential Problem	Information to Parents
• Child receives adequate Vitamin D	Vitamin D deficiency or excess	For guidance on Vitamin D supplementation for infants less than one year of age, see **Breastfed and Non-Breastfed Infants 0-6 Months and 6-24 Months**. Medication comes in a variety of forms, dosages, and serving sizes. Choose the form that works for the mother and child pair. For children 12 months and older, encourage parents to offer Vitamin D rich foods, including cow milk, each day.[5] Children over one year of age may benefit from a Vitamin D supplement of 400IU until their dietary intake regularly includes Vitamin D from other food sources and/or they drink 500mL (16oz) of commercially pasteurized cow milk daily.[5]
• Child is not given fluoride supplements unless medically indicated	Fluoride excess or toxicity	Health Canada and the Canadian Dental Association do not recommend the use of fluoride supplements. For more information consult your dentist or public health dental health educator/coordinator.
• Child is not given vitamin/ mineral or iron supplement unless medically indicated	Excess or toxicity Iron deficiency anaemia or excess iron	A child who is healthy, growing and eating based on the Canada Food Guide rarely needs a vitamin or mineral supplement.[5,20] Preterm and low birth weight infants and children of families with financial barriers may be at higher risk for poor nutritional adequacy or nutrient deficiency. Parents of preterm or low birth weight infants typically leave a hospital with recommendations. Encourage parents to keep in touch with their doctor. Families with food insecurity and financial barriers may have problems in procuring and offering a healthy enough menu and may need help connecting to appropriate resources. Both these group need to be assessed by a physician or paediatrician and a dietitian to determine their status (iron, anemia etc.) and to plan appropriate treatment and monitoring. Iron deficiency anaemia and excess iron can have irreversible impact on cognitive and psychomotor development. Parents who elect to give their child a supplement formulated to contain 7mg/d of iron (RDA for 1 to 3 year olds) should be alerted to take great care. Safe storage of the product is important as accidental overdose from iron supplements is the leading cause of death by poisoning in this age group. Unit dose packaging has helped to reduce the incidence of non-intentional ingestion and mortality[20] but supplements are available in many forms that can tempt children.

Expected Standard	Potential Problem	Information to Parents
• Child is not given probiotics or prebiotics unless medically indicated	Altered gut flora	Advise parents to consult with a paediatrician or appropriate specialist. Probiotics have a good safety profile and there are generally no adverse side effects from their use.[31,32] Probiotics appear to be beneficial for specific health concerns in infants provided that the proper strain, product selection and dosing guidelines of commercial products are followed.[33,34,35] More research is needed to determine the best dose, strain and duration for any specific use or disease. Probiotics are strain-disease specific.[35] There might be some benefit in treating antibiotic-associated diarrhea for example, but the role of probiotics is unproven.[35] There are generally no adverse effects from probiotics, however; immunocompromised patients have shown systemic and local infections caused by some probiotics.[35] The research on prebiotics uses commercial infant formulas with products included and not as separate supplements. The effects and safety of any particular prebiotic product should not be extrapolated to any other product.[36] There does not seem to be sufficient research studies testing the use of taking both pre and pro biotics together. The efficacy of supplements that include both pre and pro biotics has not been established.[36] Remind parents that breastmilk contains all the probiotics and prebiotics an infant needs. These natural breastmilk compounds cannot be duplicated and those that are advertised as being in commercial infant formula or supplements are not identical to the compounds found in human milk. In addition, prebiotics are in some foods as they are particular non-digestible/ partially digestible carbohydrates. Prebiotics are 'food' for the probiotics. Such foods include bananas, tomatoes, whole grains (breads and cereals) and legumes.

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Nutrition and Growth Assessment Manual for Infants and Children 2014

Assessment *for* Children 2-5 Years

Feeding Relationship p. 157

A quality feeding relationship exists within the context of a supportive family environment

- Child is offered meals and snacks at regular times throughout the day
- Child is offered a variety of healthy foods but given responsibility to decide how much to eat and whether to eat (division of responsibility between child and adult)
- Child is given the opportunity to participate in family meals
- Child is offered new foods in a manner that supports acceptance

Growth & Development p. 160

Child's growth is progressing normally

Growth pattern tracks parallel to the 50th percentile over time and falls between the 3rd and 85th percentiles

Parents are aware of factors that affect a child's growth and development

Nutrition p. 163

Child is offered a variety of energy and nutrient dense foods from the four food groups each day

- Child is offered foods based on *Eating Well with Canada's Food Guide*
- Child is offered a variety of vegetables and fruit
- Child is offered grain products
- Child is offered milk or milk alternatives
- Child is offered meat and alternatives
- Child is offered meals and snacks at regularly scheduled times
- Child is offered portion sizes appropriate to their age and stage of development
- A child with suspected food allergies or intolerances receive the support needed

Safe and sanitary procedures are followed when preparing and storing food and when feeding children

- Foods are modified to reduce the risk of choking

Young children exhibit normal elimination patterns

- Child has regular bowel movements which are passed without difficulty (considering individual variation)

Mother and family have access to enough healthy foods

- Food insecure families are aware of the resources they can access to achieve healthy nutrition

Child takes only recommended vitamin and mineral supplements

- Child is receiving adequate Vitamin D

Expected Standard	Potential Problem	Information to Parents
The Division of Responsibility is a key piece of the feeding relationship. Parents are responsible for **what** is offered and **where** it is offered. Infants get to decide **how much** and everything else – **when** to eat and **whether** they eat. Parents choose family foods (*the what*) and help children be calm and organized. Fundamental to parents' jobs is to trust their children to decide *how much* and *whether* to eat. If parents do their jobs with *the what*, children will do their jobs with *eating* and learn to become competent eaters. www.ellynsatterinstitute.org		
A quality feeding relationship exists within a supportive family environment	Parent or caregiver has concerns Eating behavior problems Increased risk of overweight	A quality responsive relationship happens within the Division of Responsibility.[1] A child gains independence while receiving age-appropriate positive guidance. As the toddler become a preschooler he continues to explore but need limits without parents becoming overly controlling. Parents need to be aware of their parenting style. A supportive nurturing environment is important for a child's nutrition. Encourage parents to offer healthy food and safe play areas; create opportunities for movement; limit screen time (television, video and computer games) and to structure the child's day so it provides for age appropriate sleep time.[2] Remind parents that their primary role is to provide structure; to offer nutritious food choices and to support their child as they learn to become a competent eater. A child is responsible for how much to eat and whether to eat.[1] Remind parents to watch for normal eating behaviours associated with the changing milestones such as changing growth rate, curiosity, autonomy and mobility.
• Child is offered meals and snacks at regular times throughout the day	Inadequate or excessive nutrient/ energy intake Eating behaviour problems	Encourage parents to plan meals and snacks and to offer and present family foods in ways that are positive. Toddlers and preschoolers need to eat small, frequent meals throughout the day as they have small stomachs relative to their high energy needs. As the child gets older the number of snacks can decrease. Regularly scheduled meals and snacks offer the child a sense of security and comfort around food as well as provide the energy the child needs to support the development of healthy eating patterns.[3] Parents need to find a balance between allowing enough time for the child to eat so do not feel rushed and the length of time the child is able to focus on eating.[3]

Expected Standard	Potential Problem	Information to Parents
• Child is offered a variety of healthy foods but given responsibility for how much to eat and whether to eat (division of responsibility between child and adult)	Deviation from normal growth pattern Unhealthy food choices Eating behaviour changes	The amount of food eaten at each meal and snack will vary day-to-day depending on the child's appetite, activity level and whether or not they are experiencing a growth spurt. Remind parents that an occasional skipped meal is not a concern and to expect poor intakes when their child is excited or overtired.[4] Over time, the variations in the amount a child eats tend to average out to provide enough calories and nutrients. This is especially true if children are encouraged to follow their hunger cues. When hungry, preschoolers will focus on eating. When satisfied, their attention turns elsewhere.[4] Reassure parents that it is normal, and common, for children to develop a food jag (example – want the same food served at every meal). Don't become a short order cook and don't limit the menu to foods you know your child will eat, but do serve favourite foods occasionally.[5,6] Food acceptance does improve when parents eat the same foods offered to children. Parents should continue to offer a variety of healthy foods from all four food groups in ***Eating Well with Canada's Food Guide***.
• Child is given the opportunity to participate in family meals	Eating behaviour problems Nutrient deficiencies	Children who eat meals regularly with their family and at the family table tend to eat better and have healthier eating habits. Family meals times allow children to observe and learn from parents. Through modeling and instruction ("please pass the peas" or don't spit out your food") parents teach their preschoolers how to behave at the table. Preschoolers learn how to politely refuse food without being angry or rude.[5,7,8] Depending on a child's age and stage of development, children can help prepare the meal, set the table and clean up. Reinforce the importance of family mealtimes and including all family members at the table. This is a vital piece of building socialization, skill development and food acceptance. Setting these routines, modeling mealtime behaviours and showing that healthy choice applies to the whole family.
• Child is offered new foods in a manner that supports acceptance	Eating behaviour problems Nutrient deficiencies	Remind parents that noise and distractions such as having the television on during meals greatly interferes with family social time and with children's eating.[9,10] Some preschoolers may continue to be hesitant to try new foods. Depending on the child, their family and environment, this hesitancy may continue to between 2 and 6 years of age.[11] Responsive parenting and parenting style resources may be helpful.

Expected Standard	Potential Problem	Information to Parents
		Remind parents to anticipate that children may reject foods that are familiar to them one day but eat them on another day. Food acceptance improves when children are involved in family meals, food preparation and with repeated yet positive exposures to food. It can take 12 or more exposures before a child will try. Remind parents to offer a new food along with familiar food and that children are more likely to eat foods they see adults eating.[11,12,13,14,15] Food refusal in toddlers happens if they have, or had, an unpleasant food experience (e.g. reflux, forced eating).[17] Memories can affect feeding behaviour for a long time and conflict over food is stressful and unpleasant.[17] Over encouraging and/or bribing children to eat a particular food, may increase the child's dislike for that food. Unduly restricting less healthy foods may promote over eating of these foods.[16] Make learning to eat a positive and enjoyable family experience. Children will learn to eat from family foods.

Expected Standard	Potential Problem	Information to Parents
If a toddler, preschooler or child does not meet expected developmental milestones, refer to the appropriate health professional(s) and specialist(s)Referral to a physician, paediatrician or pediatric dietitian may be necessary to address medical concerns and/or for more detailed assessment and counselling. For more information about the WHO Growth Charts and the evidence summary and appropriate interpretation, refer to www.whogrowthcharts.ca (Dietitians of Canada). Dietitians of Canada hosts an orientation package (five training modules & related resources) for monitoring growth in infants and children using WHO growth charts in Canada.		
Child's growth is progressing normally *Serial measurements* of height and weight are measured, recorded and plotted on appropriate gender specific WHO growth charts. • Parental height is recorded. • Record child age in years/ months/days; plot to nearest completed ¼ year • Height is measured, recorded and plotted to the nearest cm • Weight is measured, recorded and plotted to the nearest 0.5 kg • BMI is calculated (use formula on the growth charts), recorded and plotted against age	Inaccurate assessment of growth due to: • Missing measurement(s) • Inaccurate measurement(s) • Inaccurate recording and/or plotting • Inappropriate equipment • Key information relevant to interpretation and assessment is missing	Growth charts are the most useful tool to assess the health and nutritional status of a child. Once the child's measurements are plotted on the appropriate chart, percentile (%) curves help to show the child's growth trend. It is important that all measures of growth are examined collectively. Advise parents that measurements taken at one time describe size at that time only and do not show the child's pattern or trend of growth (as measures would if taken and plotted at each recommended clinic visit). For example, his weight today only tells what his weight is today. Advise parents of the positive things they can do to promote healthy body weight whether related to the feeding relationship, activity, food offered, sleep or screen time. Remind parents that their own body size and genetic background also has an influence their child's growth and weight. Following growth is essential to detecting nutritional inadequacies or underlying disease.[1] A child who is not trending well needs to be assessed (anthropometric, growth potential, history, physical exam, development, feeding relationship, food history/complementary foods and family dynamics) and may require assessment from several health specialties. Normal growth can show a gradual shift in percentiles for **both** weight and height up in the first 2 to 3 years as child moves toward their genetic potential.[1,2,3,4] After the age of 3, there should be no more change in percentiles until puberty.[1] An increases or decrease in growth may be an expected result from an issue such as weight loss or catch up growth due to illness or over and under eating but to prevent potential growth disturbances, any change should assessed; investigate **before** child crosses percentiles.[1,2,3]

Expected Standard	Potential Problem	Information to Parents
		REFERRAL NOTE: Referral may be required if: • Growth is < 3rd percentile or > 85th percentile Criteria for referral or intervention: • Growth is > 97th percentile • A sharp or unexplained upwards or downwards growth trend over a short period • A consistent flat growth trend
Growth pattern tracks parallel to the 50th percentile over time and falls between the 3rd and 85th percentiles.	Growth is outside of the expected parameters or an unexpected shift in growth has occurred Missed or inappropriate referral Inappropriate management or intervention is suggested when growth is outside predictable range but is parallel to 50th Additional information has not been sought to establish whether child is exhibiting a normal variation of growth	**If an indicator is outside the expected range, re-measure, verify age and re-plot. Recheck all measures together to ensure accurate numbers and interpretation.** The normal range is between the 3rd and 85th percentile however, children outside of those parameters may still be on a normal trend for them. While children may move toward the 50th percentile over time, the goal is not to be at the 50th percentile. It is more important to look for anomalies that are deviations from what is usual for any particular child (e.g. unexpected jumps or drops). If their chart has trends along or between a curve and parallel to the 50th, that is likely normal. Health professionals should ensure they have the information needed such as medical, developmental, feeding relationship, family mealtime, social, behavioral and food/nutrient intake. In most children, height and weight follow a consistent trend. Weight for height can give more information overall as it speaks to growth proportion.[3] BMI-for-age is the best indicator for assessing body weight status in children over 2 years. BMI must be looked at in context with all the other measures using the appropriate charts. Once all information is available, based on the assessment: • reinforce that the child is growing and developing well • assist parents in understanding expected behaviours and patterns, responsive parenting and the division of responsibility or • connect them with appropriate support or referral as needed Advise parents that a referral serves to address growth concerns when a reasonable explanation is not apparent.

Expected Standard	Potential Problem	Information to Parents
Parents are aware of factors that affect a child's growth and development	Parents do not know the variety of factors that can affect growth & development Excess or inadequate nutrient intake Eating behaviour problems Family mealtimes are not a habit Interventions are focused only on the child	Advise parents that growth can be affected by a child's overall health, a chronic illness or special health care needs, stress or change in a child's family, food and activity routines in child care, amount of juice intake and/or sweetened beverages, feeding relationship, family meal patterns, screen time and amount of active play. Advise parents that there are factors beyond a child's control that influence growth. The environment at school and community, the availability of recreational facilities, parent's work-related demands and ethnic background all have an influence on their child's daily eating and activity patterns. Advise parents of the importance of family participation when addressing a child's growth concerns. Family meals, eating breakfast, reducing the intake of sweetened beverages, including the recommended amount of vegetables and fruit daily support healthy eating. Limiting screen time to 2 hours or less per day and having adequate sleep time is important to support healthy growth. Connect families to social, community and other resources that address the issues identified.

Expected Standard	Potential Problem	Information to Parents
Child is offered a variety of energy and nutrient dense foods from the four food groups each day	Parent or caregiver has concerns Inadequate nutrient and/or calorie intake	Healthy eating is determined by the quality of the majority of food choices offered and eaten over time. Parents offer children the recommended number of servings from each of the four food groups each day. Toddlers can continue to breastfeed for up to 2 years and beyond while being offered a variety of nutrient rich family foods. Advise parents not to unduly restrict nutritious foods such as whole milk, cheese, or full fat yogurt because of fat content. Children need healthy fats for growth and development. Foods that are less healthy and provide little nutrition should be limited: foods high in sugar and salt such as candies, baked goods, doughnuts, ice cream and frozen desserts; French fries, potato chips, nachos, processed foods and other salty (high sodium) foods.
• Child is offered foods based on Eating Well with Canada's Food Guide	Inadequate nutrient intake Inadequate or excessive calorie intake	Preschoolers may eat and can have smaller half-size servings spread throughout the day. The total amount offered should aim for the total number of servings suggested for their age group for each food group. *Eating Well with Canada's Food Guide* provides guidance on healthy eating. Preschoolers need to eat small, frequent meals because they have small stomachs and relatively high nutrient and energy needs.[1] Parents should continue to allow a child's hunger and fullness cues guide their intake. Emphasize the importance of dentally healthy snacks and regular tooth brushing.
• Child is offered a variety of vegetables and fruit	Nutrient deficiency Early childhood tooth decay Watery stools, functional diarrhea	Offer at least one dark green and one orange vegetable each day. Advise parents to modify foods to stage of development. Be cautious about serving raw vegetables to toddlers less than 3 years of age as they are at a greater risk of choking. Advise parents to serve whole vegetables and fruit more often than juice. They have fibre and provide better satiety. The sugars in juices and many other drinks can lead to tooth decay. If they do serve juice, it should be 100% juice and only be offered as part of a meal or snack in an open cup, not a bottle or Sippy cup. Juice should also be limited to no more than 125 to 175 mL (4 to 6 oz) per day.[2] Emphasize that juice refers to 100% juice – not a drink, beverage, tea, coffee, iced tea, herbal tea, lemonade, punch, pop or sports drink or energy drink. These choices are unacceptable because they are high in sugar and low in nutrients; they fill small stomachs quickly and do not leave room for nutrient rich foods.

Expected Standard	Potential Problem	Information to Parents
		Fruit juices and other drinks high in sugar can lead to diarrhea. Diarrhea occurs because the gut needs to absorb more water in order to dilute the excess sugar.[2]
• Child is offered grain products	Inadequate fibre	Choose whole grain and enriched foods more often than white flour or other refined products. Examples include: whole grain bread, rolls or tortillas; bran or oatmeal; homemade muffins; and cereals made with whole wheat, shredded wheat or oats. Parents should read food labels and ingredient lists on ready to eat cereals as they can be high in sugar.
• Child is offered milk or milk alternatives	Inadequate or excessive energy intake Nutrient deficiencies *protein, iron, Vitamin D and calcium*	Preschoolers require 500mL (16 oz) of milk or a fortified soy beverage each day to meet their calcium and Vitamin D requirements. In addition to a glass of milk, milk can be used in puddings, soups and hot cereals. Advise parents that excess amounts of milk (more than 750mL per day) can fill a child's small stomach, and may limit intake of other important nutrients. Too much milk can contribute to constipation. Advise parents that yogurt and cheese may not be made from fortified fluid milk – it would not be enriched with Vitamin D. Generally whole milk (3.25% MF) is recommended for children until the age of two. However, partly skimmed 2% milk is acceptable during their second year provided that the child is growing well and is eating a wide variety and adequate quantity of food.[3] A gradual transition towards lower fat milk or alternatives is appropriate after two years of age.[4] While soy milk is preferred as the alternative to cow milk, fortified rice, almond or other vegetarian beverages can be a suitable milk alternative choice for children over 2 years of age if they are adequately fortified with protein, calcium and Vitamin D.
• Child is offered meat and alternatives	Inadequate protein intake Iron deficiency anemia	Foods rich in protein and iron such as lean meats, poultry, fish, eggs, cheese, peanut butter, soy and tofu, and legumes such as chickpeas and lentils are still important for growth and development. Young children often react to strong flavours and textures they are not used to. Meat may be made more appealing by cutting it into small bites and/or serving it in soups, stews, tomato sauce or meatloaf. Remind parents that food acceptance improves with repeated and positive exposures to food.[5]

Expected Standard	Potential Problem	Information to Parents
		Children may need meat to be modified until 3 to 4 years of age while they continue to develop their physical ability to chew. Parents can help increase iron status by serving cereals, dark leafy vegetables, eggs, dried fruit (such as raisins) and legumes as part of the family meal. Remind parents that small amounts of meat enhance the absorption of iron from other foods. Fish is easily be modified and is an important part of a balanced diet. *Eating Well with Canada's Food Guide* recommends at least 2 Canada Food Guide servings of fish each week. Health Canada has information on fish consumption.
• Child is offered meals and snacks at regularly scheduled times	Excess or inadequate energy intake	Regular meals and snacks (eating every few hours) help instill security and comfort around food. It also provides the energy children need and supports the development of healthy eating patterns. Advise parents to offer food and beverages at mealtimes and snack times; and not in between. Offer water if the child is thirsty between meals and snacks.[6]
• Child is offered portion sizes appropriate to age and stage of development		Eating Well with Canada's Food Guide serving sizes may not be the same amount you offer a child at a meal or snack. A child may eat more or less than the amount listed on Canada's Food Guide at one meal or snack. Over the day, children should consume about the suggested number of servings. There may be a wide variation in the amount of food children eat at a meal or for a snack. No two children eat a like. Appetites change from day to day so serve small amounts of food; plan for second helpings and let the child's appetite be the guide.
• A child with suspected food allergies or intolerances receive the support needed	Child does not get appropriate intervention Unnecessary food or food group restriction Food intolerances Food hypersensitivities	Refer to a paediatrician or physician for diagnosis of food allergies and the need for dietary restriction. A paediatric dietitian can help with assessing and developing the menus and food plans.

Expected Standard	Potential Problem	Information to Parents
Safe and sanitary procedures are followed when preparing and storing food and when feeding children	Foods are not prepared or using safe food handling procedures Food is not stored safely Food does not meet national safety standards Bacterial contamination: • botulism • salmonella • listeriosis • E. coli	Encourage safe hand washing procedures. Teach children and parents about proper hand washing. Clean food preparation surfaces before and after food preparation. Wash equipment and disinfect surfaces contacted by raw meat. Encourage easy and safe cooking and storing methods. Discourage eating products containing raw eggs, including uncooked dough/batter. Eggs are salmonella free when pasteurized or thoroughly cooked. Drinking raw farm milk is not recommended. Commercial milk is pasteurized to kill microorganisms that can make children sick. All juices should be pasteurized. Unpasteurized juice can be contaminated with bacteria or some viruses that can lead to illness or death in vulnerable individuals.[2] Advise parents that children under the age of 5 should not eat raw or under cooked sprouts as they may carry salmonella and E. Coli.
• Foods are modified to reduce the risk of choking	Choking (childhood asphyxiation by food)	Children need to be sitting and supervised when eating. Serve foods in a form suited to a child's chewing and swallowing skills. To prevent choking in children under 4 years of age: • Cut grapes in half and remove seeds • Remove small bones from fish • Cut raw vegetables and apples into strips • Partially cook vegetables that tend to be hard – turnips, carrots, cauliflower and broccoli etc. • Spread smooth peanut butter thinly • Cut sausages and wieners lengthwise Avoid serving foods that can increase the risk of choking such as popcorn, chunky peanut butter, seeds, whole nuts, hard candies and chewing gum
Young children exhibit normal elimination patterns • Child has regular bowel movements which are passed without difficulty (considering individual variation)		As children age, normal changes occur in the gut that decrease the daily number of stools. Less frequent bowel movements may not necessarily be constipation. Advise parents that bowel movements can be very different from one child to another. Stools come in many different colours. All shades of brown and green are normal. What is normal for their child depends on what the child eats and drinks.[13]

Expected Standard	Potential Problem	Information to Parents
	Constipation	When stools are passed less often than usual and they are hard and dry, difficult or painful to pass, constipation may be present. Advise parents that individual foods do not cause constipation. A lack of high fibre foods in the diet; not drinking enough water; and/or drinking too much milk may contribute to constipation.[14] Constipation may be due to: • a low fibre diet that does not include enough whole grains, vegetables and fruit • too much milk (more than 750 mL a day) or other dairy products which replace other foods that help bowels work well • being afraid to use the toilet or potty. Children may hold a bowel movement if there is a crack or tear around the anus, causing pain (functional constipation) • not having enough time for a bowel movement • not enough physical activity • some medicines Remind parents to introduce fibre gradually. Also remind parents to offer a variety of whole grain bread and cereal; fruit like apples, banana, berries or prunes; vegetables and cooked legumes (split peas, soy and lentils). Foods should be offered in a form appropriate to the developmental age and eating skill of the child. Set a regular toilet routine to help with constipation issues. Providing a block or bench for their feet may makes it easier to push. Prior to any prescribed management for functional constipation, refer to a physician. A history and physical examination is required to rule out potential medical causes. In addition, children with developmental and behavioral issues (e.g. developmental delays, autism, and depression) may be taking constipating medications.
	Acute Diarrhea	Diarrhea in children can be caused by bacteria, virus, parasite, medication functional bowel disorders and food sensitivities. Infection with rotavirus is the most common cause of acute childhood diarrhea.

Expected Standard	Potential Problem	Information to Parents
		The main treatment for diarrhea in children is to replace lost fluids through the use of oral rehydrating solutions such as Pedialyte. Emphasize to parents that they avoid giving plain water, fruit juice or sweetened fruit drinks, carbonated drinks (pop/soda), sweetened tea, broth or rice water. These fluids have the wrong amounts of water, sugar and electrolytes. They can make diarrhea worse. Loss of body fluids from diarrhea (and vomiting) can lead to dehydration. Signs of dehydration include: decreased urination, increased thirst, no tears, dry skin, dry mouth and tongue, faster heartbeat, sunken eyes, and grayish skin. Parents need to consult with physician if the child has bloody or black stool, is still vomiting after 5 to 6 hours, has diarrhea and a fever with a temperature higher than 38.5° C (101.5° F), has signs of dehydration (see above), or stomach pains that get worse.
Mother and family have access to enough healthy foods • Food insecure families are aware of the resources they can access to achieve healthy nutrition	Food insecurity Inadequate food intake due to poor quality or quantity of food	Food security means having access to enough healthy food without experiencing difficulty in meeting other basic family needs. Ensure families with children suspected of being food insecure are connected to social and community resources and local food security initiatives which support them.
Child takes only recommended vitamin and mineral supplements	Child is taking a supplement that is not medically indicated • intake exceeds tolerable upper limit Teeth are affected by supplements • fluorosis	A child that is healthy, growing and eating according to ***Eating Well with Canada's Food Guide*** rarely needs a vitamin And/or mineral supplement. The combination of supplement use and food fortification increases the possibility for intake exceeding the Tolerable Upper Intake Level (UL) for some nutrients. Groups of children for whom supplements may be indicated include children with restricted food intake, those who do not consume a varied enough diet and children who have a medical condition that results in malabsorption or creates special nutrient requirements.[9,10] These conditions must be assessed by a physician and/or dietitian who are able to help families plan menus for special concerns. Families with financial hardship and immigrant and refugee children and women of reproductive age[11] are higher risk groups for iron deficiency anaemia and may need special assessment of iron status by a physician or dietitian.

Expected Standard	Potential Problem	Information to Parents
		Advise parents who choose to give a supplement to take great care to ensure that the product is safely stored.[10] Excess iron can have irreversible impact on cognitive and psychomotor development. Accidental overdose from an iron supplement is a major cause of unintentional poisoning death in this age group.[12] Public Health does not recommend fluoride supplements (drops or tablets). For more information consult with a dentist or Dental Health Educator/ Coordinator.
• Child is receiving adequate Vitamin D	Vitamin D deficiency or excess	Children drinking 500mL (16 oz) of milk or fortified soy beverage daily will meet their Vitamin D requirement. Children also get Vitamin D from other food sources such as margarine, fish (salmon), and eggs. First Nations and immigrant children are at a higher risk for Vitamin D deficiency and may need further assessment.[7,8]

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