



# NUTRITION

## FOR INFANTS AND TODDLERS

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## A FOOD GUIDE FOR YOUR LITTLE ONES

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Feeding infants and toddlers is a challenging adventure that takes much time, patience, creativity, and experimentation. There are many schools of thought on what and how to feed children. The following information was derived from my own experience as a mother of a very finicky and strong-willed infant/toddler, my professors, mentors, and favorite resources. Please do not interpret this information as the golden rule, but take from it what works best for you and your family. Trust your intuition and remember that a parent knows what is best for their child.



# NUTRITION FOR INFANCY- 6 MONTHS

## DIGESTIVE ABILITY

- Pepsin, the enzyme that digests protein, is low in early life.
- Fat digestion is good for human milk and vegetable oils (found in formula)
- Disaccharidases are at adult levels by birth, but amylase is low during the first 6 months of life, both digest carbohydrates. It is dangerous to feed babies grains (unless they are fortified with enzymes) prior to 5 months due to the lack of enzyme production; this could lead to the development of allergies.



## COMMON NUTRIENT DEFICIENCIES

- Vitamin D:
  - Needed for immune health, bone health, brain development, and prevention of cancer, diabetes, and behavioral/learning disorders.
  - The body uses sunshine to activate Vitamin D. Vitamin D peaks at 1/3 the "minimum erythema dose" (MED). If MED is 15 minutes, then you need just 5 minutes of sun a day.
  - Children need 400-800 IU's daily if not breastfed (this is usually supplemented in formula).
  - If mom is breastfeeding, she should be receiving 4000-6000 IU's of Vitamin D3 daily for her health and the baby's health. Vitamin D3 does not cross into the breast milk until the mother's intake reaches 4000 IU's a day. Adults need 2000 IU's daily. Vitamin D should be given in combination with calcium, magnesium, and other minerals. The only exception is if you spend your days in the sun.
  - You may check your Vitamin D levels with a blood test for 25(OH) Vitamin D; optimal blood levels are 75-100 ng/ml for optimal bone health. If supplementing with Vitamin D, levels should be checked every 3-4 months. Once a desired range is reached, 2000 IU's daily are recommended for maintenance during the Winter months.
  - Food sources include cod liver oil (highest source), fish, egg yolks, butter, fortified milk, and liver.
- Iron
  - Iron stores may be depleted at 4-6 months. However, breast-fed infants whose mothers are not iron deficient are able to absorb adequate levels through the breast milk. A fingerstick or hemoglobin is the screening and should be checked at 6 months of age.
  - All infants need a solid food source of iron after 6 months. Whole food sources of iron include: avocados, lentils, legumes, sweet potatoes, dried fruits, leafy greens, sea vegetables, molasses, beef, lamb, egg yolks, and dark meat poultry.
  - Babies at increased risk of iron deficiency include, premature babies, babies with low birth weight (< 6.5 lbs), babies with mothers who have diabetes, and those fed formula. Consequences of iron deficiency include impaired motor development, developmental delay, and behavioral problems.



## INFANCY- 6 MONTHS *(CONTINUED)*

### COMMON NUTRIENT DEFICIENCIES *(continued)*

- Add a little **t** is a good idea to provide your child with a **multivitamin** starting at 12 months, if they are no longer breast-fed. This is when their eating behaviors are erratic and it may be difficult to insure they are eating all their essential nutrients.
- Fat:
  - Children ages 0 – 2 years need to receive 50-55% of their calories from fat; this is the content in human milk. Good fats are **essential** for brain and nervous system development.



### INTRODUCING SOLIDS

Infants are not ready developmentally until 5-6 months. Introduce solid foods during the first year of life beginning around 6 months, including allergenic foods, Earlier introduction of solid foods may increase the child's risk of developing allergies, see page 5 for specific recommendations regarding introducing peanuts.

- Developmental signs include: **loss of tongue thrust** when a spoon is placed in the mouth, **head control**, **ability to sit up**, **interest** - observed when they reach and lean toward your food, and **hand-eye coordination**. Do not wait for teeth.
- First foods: **ripe bananas** (contain amylase), **avocados** (contain iron), **soft boiled egg yolk** (contain iron, cholesterol, and choline). Rice cereal may be considered only if it contains the enzyme amylase to aide in digestion. For brain development,  $\frac{1}{4}$  tsp cod liver oil should be given starting at 4 mos.; the dose may be doubled at 8 mos.
- Continue breastfeeding while introducing foods.
- Breast-milk or formula should be the primary food for the first year of life.

Observational research in England has revealed that babies who are allowed to make their own food choices with finger foods (**Baby-led Weaning**) are less likely to become picky eaters and are more likely to avoid foods they do not tolerate. If using "Baby-Led Weaning" be cautious of micro-nutrient deficiencies (especially iron) and choking risks.

### RULES OF THUMB WHEN INTRODUCING FOODS:

- Start by feeding your infant with a **small amount of food** on your finger.
- Start with small proportions, teaspoons and let your baby decide if he/she wants more. Portions eventually become 1 TBS. Slowly work up to feeding your child 3 meals/day (some babies are not ready for 3 meals until 9 months). To start, give solid food 1-2 hours between nursing/bottle sessions when your baby is awake and alert. Eventually the solid food becomes the primary calorie source and breast/bottle milk become a snack.





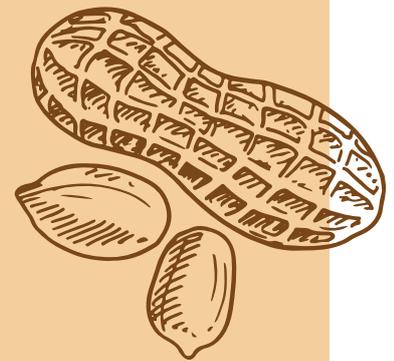
## INFANCY- 6 MONTHS *(CONTINUED)*

### RULES OF THUMB WHEN INTRODUCING FOODS: *(continued)*

- Introduce new foods one at a time, every three days, and watch for reactions (red rash around anus “target sign” sandpaper-like rash on face, diarrhea, gas, bloating, vomiting/increased spit-up, runny nose, teary eyes, hives, difficulty breathing, fatigue, cranky behavior).
- Never introduce combination foods i.e. mixed grains.
- Never force your baby to eat.
- If using jarred baby food, do not serve food out of the jar, Store it in the refrigerator and toss it after 3 days.
- Young children need to see new foods 10+ times to accept and eat a food. They should try it, but they don't have to swallow it, they can spit it out. If a new food is rejected, wait a few days to reintroduce it again.
- Breast fed babies tend to like sweeter foods (bananas), formula fed like more mild foods (rice).
- Avoid giving juice to all children.
- Offer new foods in the morning, so that potential side effects wear off by the evening to prevent poor sleep.

### INTRODUCING PEANUTS

- New research shows that introducing peanuts to "high-risk" infants as early as 4-6 months old may decrease the risk of developing a peanut allergy in the future. "High-risk" refers to infants with severe eczema or a previously diagnosed egg allergy. It is recommended that a specialist perform a skin-prick allergy test beforehand to determine whether peanuts should be introduced in a physician's office or safely at home. If the skin-prick test reveals a moderate to high likelihood of a peanut allergy, continue to work with a specialist.
- For infants with mild to moderate eczema, peanut introduction is recommended at around 6 months, with no need for an in-office evaluation. For all infants with no eczema or food allergies, peanuts can be introduced according to parental preferences and cultural dietary practice.
- For all infants, the exposure to peanuts should be attempted by using age appropriate peanut-containing food (such as peanut butter, flour, peanut puff).



If caregivers are concerned about food reactions, consider the following least reactive foods: rice, pears, lamb, chicken, salmon, trout, turkey, wild game, sweet potatoes, cabbage, carrots, cauliflower, kale, broccoli, beets, apricots, cranberries, grapes, raisins, papaya, peaches, squash, olives, tapioca, asparagus, avocados, barley, rye, quinoa.





## 6 MONTHS

- Digestive ability: Babies are able to digest fats, and small amounts of protein and carbohydrates.
- Developmental ability: This varies from child to child, they are typically just learning to swallow solids and take the spoon.
- First fruits: avocado, melon, mangos, papaya, and cooked peaches, apricots, apples, pears, cherries, and berries.
- First veggies: carrots, sweet potatoes, beets all served with a fat to aide in digestion and absorption of fat soluble vitamins (breast milk, coconut oil).
- First meats: egg yolk, pureed lamb, chicken, salmon, turkey, wild game, and soup broth.



## 7-9 MONTHS

- Developmental ability:
  - Babies begin to pick up objects with the thumb and forefinger.
  - Their curiosity for new tastes and textures grow.
- Continue the food introduction tips listed above.
- Foods to introduce: sips of water, pureed meats, egg yolks (lightly scrambled or hard boiled), rice, barley, rye, quinoa, (grains soaked 24 hours then cooked), fermented foods (goat kefir, yogurt), pureed veggie soups and stews, the least reactive fruits and vegetables listed above.
- Introduce finger foods at 8-9 months, try the following: cooked carrots, or peas, banana pieces, cooked fruit pieces, mashed potatoes, avocado slices, egg yolk crumbles, gluten free O-shaped cereals, rice pasta.  
Never leave your child unattended and watch for choking!



## 9 -12 MONTHS

- Digestive ability:
  - Babies are able to digest all forms of protein at around 10 months.
- Developmental ability:
  - Introduce a cup, wean off the bottle by 12 months. Start by offering your baby an empty cup as a toy.
  - Introduce a spoon to your child as a toy, while you feed them with your spoon. If your child wants to feed his/her self, help them guide the spoon into their mouth.
  - Teething varies from child to child. Determine size and consistency of food to feed your child based on the number of teeth they have.
- Foods to introduce: at 10 months all forms of protein may be introduced, including legumes, turkey, chicken, lamb, fish, and wild game
- Follow the rules of thumb with food introduction listed above.
- Continue to add variety in texture, tastes, and colors.



## FEEDING THE TODDLER, 12-24 MONTHS



- Digestive ability:
  - By 12 months, a child's digestive system has gained maturity and is able to digest most foods.
  - By 12 months, a child's immune system has reached a greater level of maturity, reducing the risk of allergies and food sensitivities.
- Foods to introduce:
  - Continue to introduce new foods every three days, watching for side effects. After a year you can introduce some of the potentially reactive foods such as wheat, dairy, and nuts. Serve leafy greens with butter for ease of digestion. Use caution if there is a history of allergies in your family

### TIPS TO FEEDING TODDLERS:

- Have age appropriate expectations of portion sizes, use small plates.
- Set and maintain a regular schedule of meals and snacks, eliminate grazing. Children need 2 hours free of food and drink before meals.
- Expect erratic intake from day to day, based on growth spurts, mood, sleep, etc.
- Serve balanced meals and snacks with lots of variety.
- Offer real food at snack time and use this time to introduce new foods or serve vegetables.
- Serve the food your child is least likely to eat, first when they are hungry, i.e. serve vegetables before the main course.
- Vary food groups through out the day.
- If your toddler is no longer breast feeding, serve him/her 2 cups whole goat or cow milk a day with meals or as a snack. If your child does not tolerate dairy, consider supplementing with a multivitamin containing calcium. Create a toddler-nibbling tray (Sears Family): offer a variety of finger foods on an easy to reach table placed in a muffin or ice cube tray. Examples include: thinly slice apples, avocado wedges, banana wheels, steamed broccoli florets, cooked and thinly sliced carrots, hard boiled egg wedges, O-shaped cereal.
- Hide nutritious and less likable foods in soups, pastas, casseroles, scrambled eggs, pancakes, muffins, waffles, smoothies, etc.
- Cut sandwiches, pancakes, pizzas, etc into little squares or wedges.
- Serve foods your child is less likely to eat in the morning when they are very hungry, i.e. steamed broccoli for breakfast and eggs for dinner.
- Plan for feeding ups and downs. Remind yourself that how much and what your child eats, varies daily. Practice patience, stay calm, and know that each stage will pass.
- Never stop trying, one day they may surprise you and eat the food they have been avoiding for the past 12 months.

### *References*

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