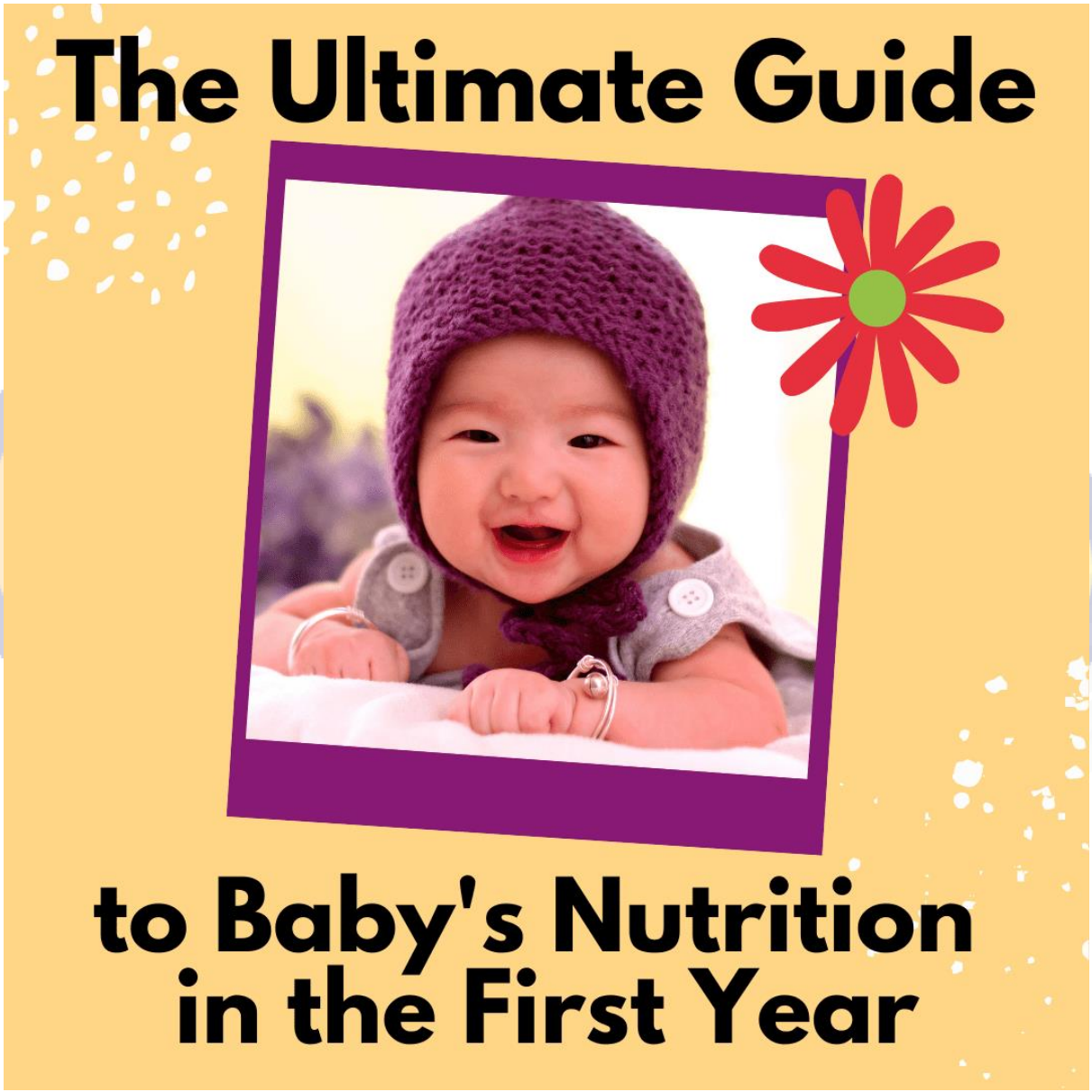
Infant nutrition – The ultimate guide



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Introduction

Complementary feeding is giving suitable foods to babies in addition to breastmilk. These foods should complement, not replace, breastmilk.

Good nutrition is essential for the growth and development that occurs during an infant's first year of life. When developing infants are fed the appropriate types and amounts of foods, their health is promoted. Positive and supportive feeding attitudes and techniques demonstrated by the caregiver help infants develop healthy attitudes toward foods, themselves, and others

Throughout the first year, many physiological changes occur that allow infants to consume foods of varying composition and texture. As an infant's mouth, tongue, and digestive tract mature, the infant shifts from being able to suckle, swallow, and take in liquid foods, such as breast milk or infant formula, to being able to chew and receive a wide variety of complementary foods.

Infants need energy from food for activity, growth, and normal development. Energy comes from foods containing carbohydrates, protein, or fat. The number of kilocalories (often termed "calories") needed per unit of a person's body weight expresses energy needs.

In general, most healthy infants double their birth weight by 6 months of age and triple it by 12 months of age.11 However, keep in mind that there are normal differences in growth between healthy breastfed and formula-fed infants during the first year of life.

Important macro and micronutrients for children:

Here are a few important nutrients that we should consider including in an infant's diet for optimal growth. When we as a parent understand the importance of each nutrient, we can make mealtime healthier in a conscious way. Because food should be nourishing our body.

Carbohydrates:

Carbohydrates serve as primary sources of energy to fuel bodily activities while protein and fat are needed for other essential functions in the body, such as building and repairing tissues.

Carbohydrates

AI for Infants	
0–6 months	60 g/day of carbohydrate
7–12 months	95 g/day of carbohydrate

*AI- Adequate Intake

Sources of carbohydrates:

1. Rice
2. Finger millet
3. Foxtail millet
4. Jowar
5. Pearl millet
6. Kodo millet
7. Branyard millet
8. Rice or idly or dosa made out of these millets or rice can be a

Fiber:

Dietary fiber is found in legumes, wholegrain foods, fruits, and vegetables. Breast milk contains no dietary fiber, and infants generally consume no fiber in the first 6 months of life. As complementary foods are introduced to the diet, fiber intake increases; however, no AI for fiber has been established. It has been recommended that from 6 to 12 months whole-grain cereals, green vegetables, and legumes be gradually introduced to provide 5 grams of fiber per day by 1 year of age.

Sources of fiber:

1. Oranges (As a whole fruit and not juice)
2. Papaya
3. Apples (Grated or steamed – Whole apple chucks are a choking hazard)
4. Broad beans
5. Long beans
6. Beans
7. Broccoli
8. Sweet potatoes
9. Cucumber
10. Beetroot

Protein:

All proteins are combinations of about 20 common amino acids. Some of these amino acids are manufactured in the body when adequate amounts of protein-rich foods are eaten.

Protein

AI for Infants	
0–6 months	9.1 g/day of protein
RDA for older infants	
7–12 months	11 g/day of protein

Sources of protein:

1. Boiled mashed chickpeas
2. Boiled mashed green gram
3. Boiled mashed kidney beans
4. Boiled mashed black beans
5. Amarnath
6. Oats
7. All kinds of cooked lentils
8. Toor dhal (not dhal water)
9. Masoor dhal (not dhal water)
10. Eggs (Eggs are allergen: Ways to offer eggs and allergy management are explained in the webinar. Please reach out to professionals at Oxyto or your pediatrician before offering eggs if you are unclear)

Infants require high-quality protein from breast milk, infant formula, and/or complementary foods that:

- Build, maintain, and repair new tissues, including tissues of the skin, eyes, muscles, heart, lungs, brain, and other organs;
- Manufacture important enzymes, hormones, antibodies, and other components; and
- Perform very specialized functions in regulating body processes.

Vitamin D:

Vitamin D, a fat-soluble vitamin, is essential for:

- Proper formation of bones and

Utilization of calcium and phosphorus in the body

Vitamin D		
AI for Infants	0–12 months	5 µg (200 IU)/day
UL for Infants	0–12 months	25 µg (1,000 IU)/day

Vitamin D is manufactured in the skin by the action of ultraviolet light (from the sun) on chemicals naturally present. The requirement for dietary vitamin D depends on the amount of exposure an infant gets to sunlight.

Sources of Vitamin D:

1. Sunlight exposure without SPF on the body

2. Eggs(Eggs are allergen: Ways to offer eggs and allergy management are explained in the webinar. Please reach out to professionals at Oxyto or your pediatrician before offering eggs if you are unclear)
3. Mushrooms
4. Pumpkin seeds (powdered form)
5. Sunflower seeds (powdered form)

Vitamin A:

Vitamin A, a fat-soluble vitamin, is required for:

- Formation and maintenance of healthy skin, hair, and mucous membranes;
- Proper vision;
- Growth and development; and
- Healthy immune and reproductive systems.

Vitamin A

AI for Infants	
0–6 months	400 µg Retinol Active Equivalent/day of vitamin A
7–12 months	500 µg Retinol Active Equivalent/day of vitamin A
UL for Infants	
0–12 months	600 µg/day of preformed vitamin A

Sources of vitamin A:

1. Carrots
2. Sweet potatoes
3. Tomatoes
4. Red bell peppers
5. Mangoes
6. Eggs (Eggs are allergen: Ways to offer eggs and allergy management are explained in the webinar. Please reach out to professionals at Oxyto or your pediatrician before offering eggs if you are unclear)
7. Cantaloupe
8. Green leafy vegetables

Vitamin E:

Vitamin E, a fat-soluble vitamin, performs the following roles:

- Protects vitamin A and essential fatty acids in the body and
- Prevents the breakdown of tissues.

Vitamin E

AI for Infants	
0–6 months	4 mg/day of α-tocopherol
7–12 months	5 mg/day of α-tocopherol

Sources of vitamin E:

1. Sunflower seeds (Powdered form)
2. Peanuts (Powder form)
3. Pumpkin
4. Almonds
5. All nuts and seeds (Only in powder form)
   (All nuts and seeds are allergens: Ways to offer eggs and allergy management are explained in the webinar. Please reach out to professionals at Oxyto or your pediatrician before offering eggs if you are unclear)

Vitamin C:

The major functions of Vitamin C (ascorbic acid), a water-soluble vitamin, include the following:

- Forming collagen, a protein that gives structure to bones, cartilage, muscle, blood vessels, and other connective tissue;
- Helping to maintain capillaries, bones, and teeth;
- Healing wounds;
  Playing a role in the body's ability to resist infections; and
- Enhancing the absorption of iron.

Vitamin C

AI for Infants	
0–6 months	40 mg/day vitamin C
7–12 months	50 mg/day vitamin C

Sources of vitamin C:

1. Steamed amla (deseed before offering)
2. Fully ripened guava
3. Moringa leaves
4. Tomatoes
5. Papaya
6. Oranges
7. Potatoes
8. Capsicum
9. Cabbage
10. Cauliflower

Calcium:

Calcium, a mineral, plays an important role in the following activities:

- Bone and tooth development
- Blood clotting and
- Maintenance of healthy nerves and muscles.

Calcium

AI for Infants	
0–6 months	210 mg/day of calcium
7–12 months	270 mg/day of calcium

Sources of calcium:

1. Sesame seeds (should be offered in powdered form - it is an allergen)
2. Soya
3. Dairy products (Dairy products are allergens)
4. Fish
5. Green leafy vegetables

Iron:

Iron, a mineral, is needed by infants for:

- Proper growth and formation of healthy blood cells and
- Prevention of iron-deficiency anemia.

Iron

AI for Infants	
0 - 6 months	0.27 mg/day of iron
RDA for Infants	
7 - 12 months	11 mg/day of iron
UL	
0 - 12 months	40 mg/day of iron

Sources of iron:

1. Greens (All spinach variety)
2. Amarnath leaves
3. Ridge guard
4. Curry leaves
5. Beetroot

6. Brinjal
7. Bitter guard

Zinc:

- Zinc plays a role in the following bodily functions:
- Formation of protein in the body and thus assists in wound healing
- Blood formation
- General growth and maintenance of all tissues
- Taste perception and
- A healthy immune system.

Zinc

AI for Infants	0–6 months	2 mg/day of zinc
UL for Infants	0–6 months	4 mg/day of zinc
UL for Infants	7–12 months	5 mg/day of zinc
RDA for Infants	7–12 months	3 mg/day of zinc

Sources of zinc:

1. Nuts and seeds
2. Fish
3. Chickpeas
4. Beans
5. Brown rice
6. Curd
7. Eggs
8. Spinach

Additional information:

1. Do not add salt, any forms of sugar, or any additives to the baby's food
2. Processed food with fat, sugar, or salt (E.g, cakes, pastries, biscuits, chips, fried foods) are not recommended for babies
3. Avoid small hard foods like whole nuts, apple chunks, and uncooked vegetables to prevent chocking
4. Fruit juice, cordial, soft drinks, flavored water, unpasteurized milk, soy milk, goat's milk, rice/oat milk, caffeinated drinks, tea, coffee, and herbal drinks are not recommended for babies.
5. Avoid raw eggs and honey due to the risk of bacteria.
6. Sit with your baby while eating to encourage social interaction, learn about food, and avoid choking accidents.
7. Enjoy healthy meals together as a family. This helps your baby develop healthy eating habits for the future.
8. Seek advice from your healthcare professional if you are worried about your baby's eating, growth, or development.

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