

FAQ on iodine in Infant Formula

1. What is the function of Iodine?

Iodine is an essential nutrient used for the synthesis of thyroid hormones by the thyroid gland. The function of iodine is contributed through the physiological actions / functions of the thyroid hormones. Thyroxine promotes and regulates a series of metabolic pathways, e.g. utilization of fat, protein and glucose in energy production. It also regulates protein synthesis. The normal development of the brain and the nervous system requires thyroid hormones.

2. Does low intake of iodine means deficiency ?

If the amount of intake is persistently below the recommendation for a long period of time, the body will have iodine deficiency.

3. If a child is iodine deficient (persisted low intake of iodine), will he/she be having hypothyroidism or low thyroid hormones?

Not necessary. The body has a lot of compensatory mechanisms to maintain the thyroid hormones at normal level. The effects of iodine deficiency on the development of hypothyroid or a state of low thyroid hormone are extremely variable among population and individual. Undefined genetic variation is likely the explanation. However, it was reported that population with a severe deficiency (less than 20µg/day), the prevalence of goiter is high and there is a sharp increase in the proportion of children suffered from hypothyroidism and its complications increase compared to areas in which the intake of iodine is considered adequate.

4. How much iodine does a baby need?

WHO recommended dietary intake of iodine for infants aged 0-12 months at 15 µg /kg body weight/day (i.e. 90µg /day for a 6-month-old infant weighing 6 kg).

5. Is it better to change to a formula with the highest iodine level?

Although there are different levels of iodine content in different infant formulae, it is not necessary for parents to choose the one with the highest iodine level. According to the Codex recommendation on infant formula, iodine content of at least 10µg /100kcal is considered adequate. You can look at the nutrients label on the package, or get the latest information from the Centre for Food Safety (CFS).

6. My baby drinks less than the recommended amount of milk as suggested on the package, will she get adequate iodine?

Nutritional needs vary among individual babies. The information on the package is just

a rough guide. Baby's intake varies from day to day. If a baby is fed on the infant formula with iodine level that meets the Codex requirement and has weight gain, her iodine intake should be adequate.

7. How can a baby 6-month or older get adequate iodine from diet?

- ✧ Apart from solid food, most babies still need at least 600 ml formula milk at this stage. Offer them an infant formula with iodine level that meets the Codex requirement.
- ✧ Provide a variety of iodine rich foods, such as egg or egg yolk (1 egg yolk provides 20µg iodine), or seawater fish every day.
- ✧ Once every 2-3 weeks, prepare the congee or rice with a small piece of kelp

8. My 12-month baby has been taking mainly the low iodine content infant formula; will it cause iodine deficiency or hypothyroidism?

Although the iodine intake from the formula milk is lower than the WHO recommendation, your child has started solid food and so he can absorb adequate iodine intake from iodine rich food. In addition, the body has a lot of compensatory mechanism to maintain the thyroid hormones at the normal level, the risk of developing hypothyroidism is not high.

9. My child has been taking the low iodine formula milk, should my child double up his iodine intake in order to speed up his body in regaining the normal iodine level?

The thyroid gland is unable to absorb large amount of iodine in a short period of time, it may even cause adverse effect on the normal thyroid function and decrease the secretion of thyroid hormone. There is no additional advantage for the body if the daily iodine intake is more than 180µg. Parents should ensure the child's daily dietary iodine intake is up to 90µg or more, it allows the child to steadily accumulate iodine to maintain normal thyroid function.

10. How should I choose/ switch to other brand of infant formula for my 0-6 months old baby?

The nutrients and iodine content of the infant formula should meet the requirement of International Committee of Codex Alimentarius. The iodine content should be 10-60µg /100kcal, which means 6-42µg /100ml according to standard milk preparation method. You can refer to the nutrition label on the package, check if the iodine content is within the above range.

Parents can switch to other brands of infant formula directly but not follow-up formula, as the high protein level may overload the baby's kidneys, or even causing dehydration,

gastroenteritis or brain damage. Babies below 4 months old should avoid taking solid food, to avoid increasing the chance of developing allergic reactions.

11. How can I know which infant formula meet the Codex requirement?

You can look at the nutritional label on the package, iodine content of 10-60 μ g / 100 kcal, i.e. 6-42 μ g / 100 ml by standard preparation method. You can also check the information from the website of the Centre for Food Safety.

12. How to select / switch to other brand of infant formula for babies of 6-month-old or above?

Babies 6-month-old or above can select / switch to other brand of infant formula in which the nutrients and iodine content meet the Codex requirement, or can select follow-up formula for babies older than six months. You can look at the nutritional label on the package, the iodine content should not be less than 5 μ g / 100 kcal, i.e. not less than 3 μ g/100 ml by standard preparation method. You can check the information from the website of the Centre for Food Safety.

13. What kinds of food are suitable for babies six months old or above?

- ✧ Babies six months or older can continue breastfeeding or be fed on formula milk with nutrients and iodine content met the Codex requirement. Milk intake should be 600 to 700ml/day.
- ✧ Only milk alone cannot satisfy their nutritional needs.
- ✧ A variety of solid foods should be added.
- ✧ Choose iodine rich foods e.g. egg yolk or seawater fish
- ✧ WHO recommendation of iodine intake is 90 μ g /day.

Example of menu

Daily:

- ✧ 600-700ml infant formula or follow-up formula
- ✧ 1 egg yolk or 40g seawater fish (i.e. 2-3 tablespoons)

Every 3 to 4 week: use a small piece of kelp or seaweed for cooking congee/rice

Points to note when starting to feed babies with solid food

- ✧ Babies still rely on milk at the initial stage of transitional feeding. The frequency of breastfeeding or formula feeding should not be reduced.
- ✧ Give the baby 1-2 teaspoon at a time. Gradually increases the amount of food if the baby eats well. The texture should be from smooth and runny food to thicker food.

When introducing new foods, parents should follow these rules:

- ✧ Introduce foods that are less likely to cause allergy first; e.g. rice cereal, vegetable puree, and fruit puree.
- ✧ Food must be cooked thoroughly.
- ✧ Try one new food at a time.
- ✧ Observe for any allergic reactions e.g. urticaria, worsening eczema, swollen eyes, tongue, face, mouth and lips; watery stools or vomiting. If no signs of allergic reactions observed, then you can try another new food.