

# **Low Iodine Content in Infant Formulae**

Department of Health

Updated 16.10.2012

# Background

- The Centre for Food Safety (CFS) has released report on test of the nutritional composition of infant and follow-up formulae available in the local market on 8 and 10 Aug 2012

# Six infant formulae were found to contain excessively low level of iodine



和光堂  
(Wakodo)  
初生嬰兒奶粉  
(850克)

森永  
(Morinaga)  
初生嬰兒奶粉  
(850克)

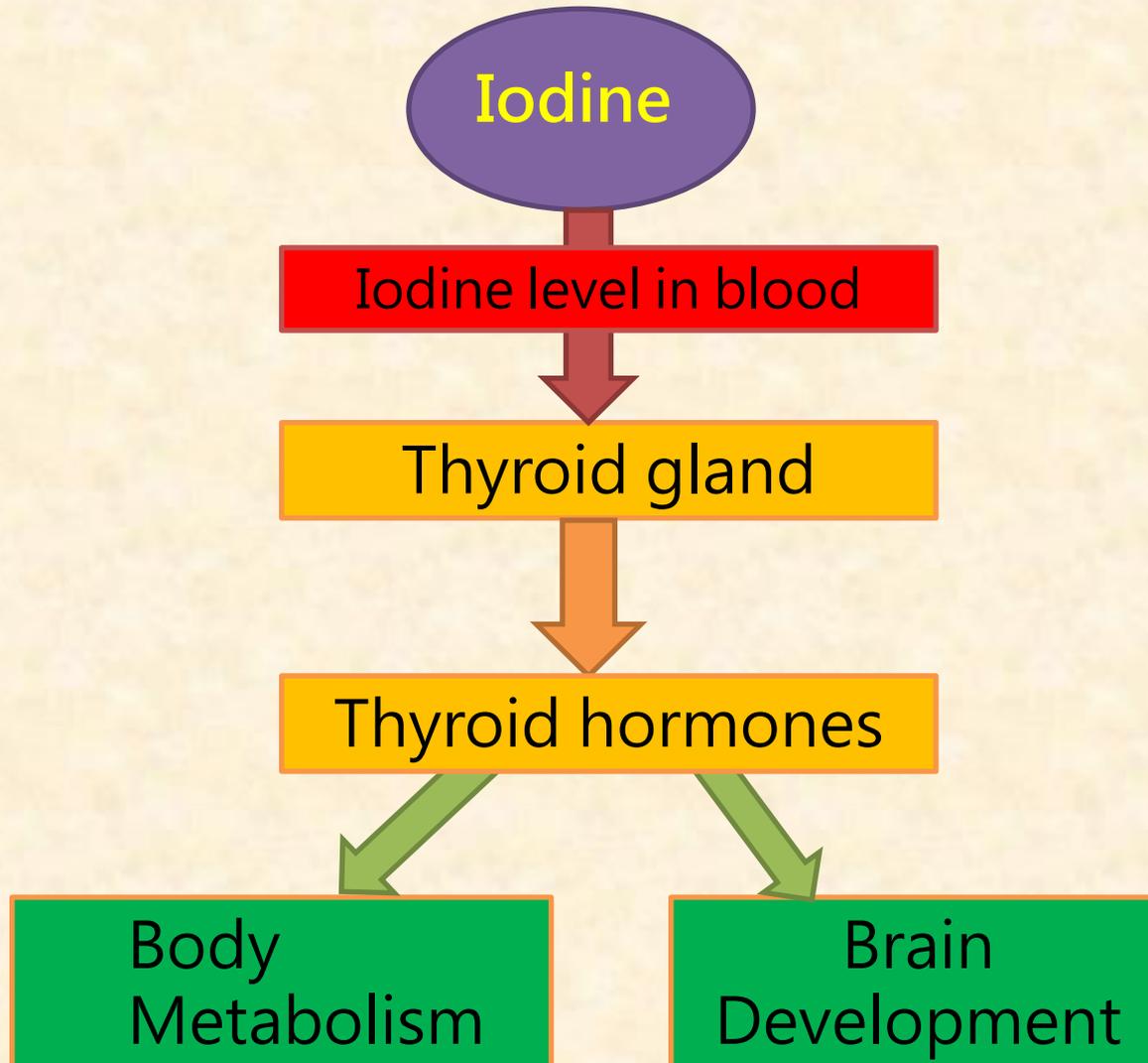
明治  
(Meiji) HP  
無乳糖配方奶粉  
(0-36個月)  
(850克)

森永  
(Morinaga)罐裝  
縮氨酸低敏奶粉  
(0-12個月)  
(820克)

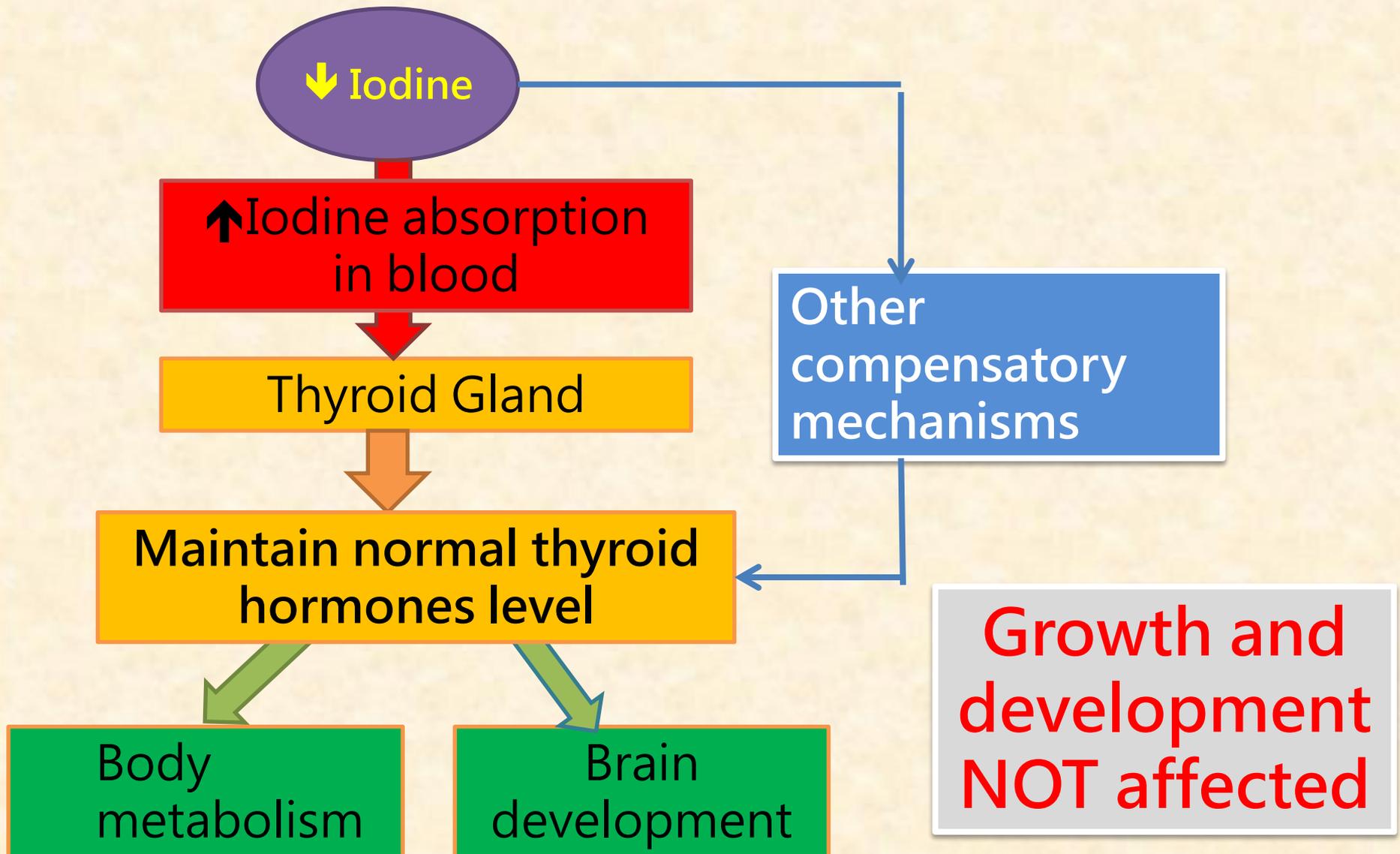
和光堂  
(Wakodo)  
細仔奶粉  
(0-9個月)  
(13gx10條裝)

森永  
(Morinaga)  
細仔奶粉  
(0-12個月)  
(13gx10條裝)

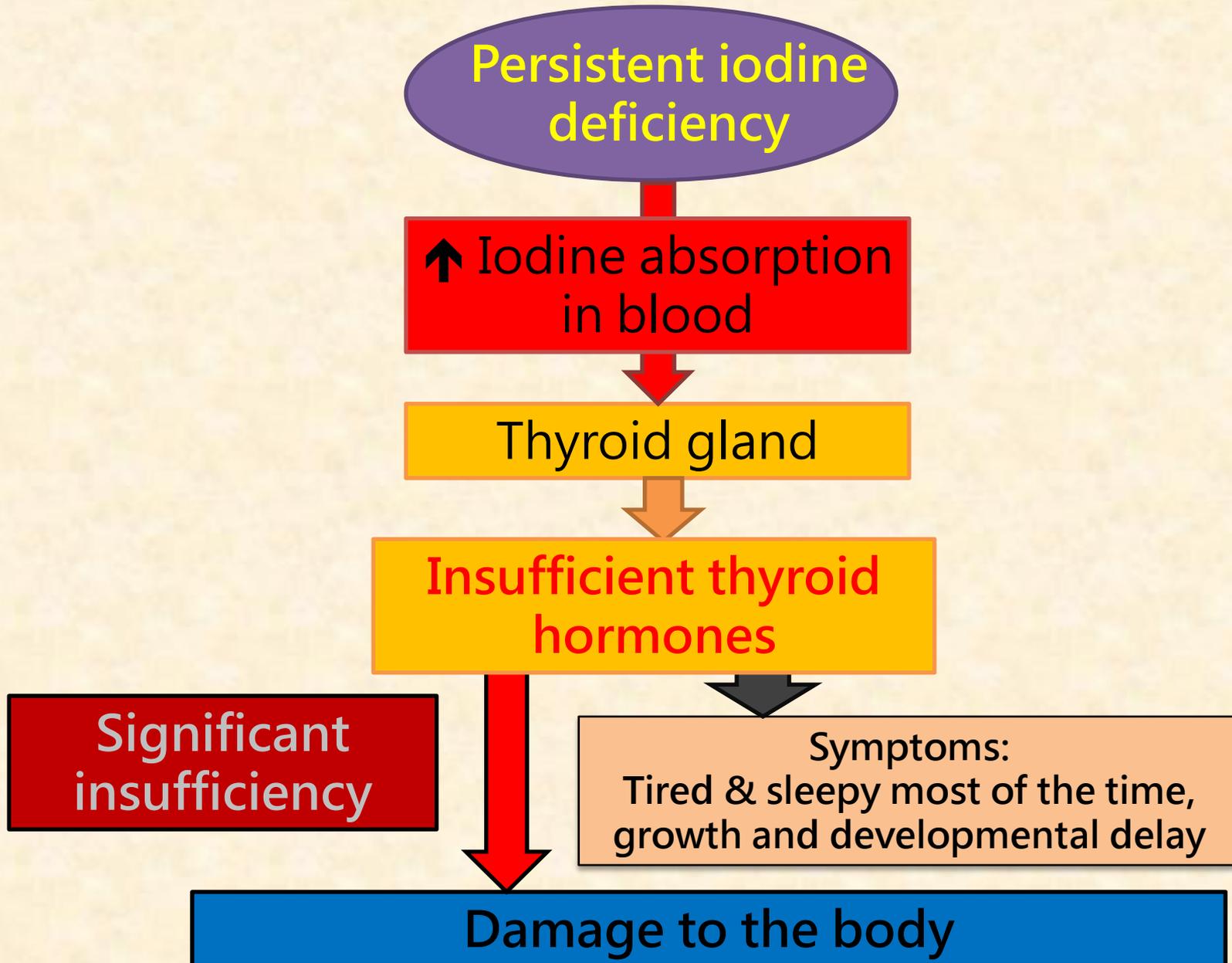
# Function of Iodine



# Iodine Deficiency



# Thyroid Function Insufficiency



# How much iodine is needed for baby?

Recommendations from WHO:

- Dietary intake of iodine for baby age 0-12 months is 90 $\mu$ g/day

# What are the sources of iodine for baby?

- Birth to 6 months old

- Breastmilk (lactating mothers should eat a diet with adequate iodine content) OR
- Formula milk fortified with iodine

- 6 months or above

- Breastmilk OR formula milk fortified with iodine

AND

- A variety of complementary foods rich in iodine

# What kinds of food are rich in iodine?

- Seaweed and kelp are of highest iodine content
- Seawater fish and Seafood (including prawn, mussels, oysters, etc.)
- Egg yolk
- Milk or milk products

**What should I do if my child had  
consumed the concerned infant formula?**

**STOP feeding your baby  
with the  
concerned infant formula**

# Newborn to 6 months old baby

- **SWITCH** to other infant formula with iodine and other nutrients levels that meet the Codex requirement **IMMEDIATELY**

**Consult a doctor  
if you have concerns**

# Baby 6 months or above

- **SWITCH** to other infant OR follow-up formula with iodine and other nutrients levels that meet the Codex requirement **IMMEDIATELY**
- Children 1 year or above can drink whole fat milk
- At the same time, provide a variety of iodine rich complementary food to your baby to ensure adequate iodine intake

**Consult a doctor  
if you have concerns**

# Get the latest news from CFS website

[http://www.cfs.gov.hk/english/consumer\\_zone/foodsafety\\_Iodine\\_in\\_infant\\_formula.html](http://www.cfs.gov.hk/english/consumer_zone/foodsafety_Iodine_in_infant_formula.html)

The screenshot displays the website interface for the Centre for Food Safety (CFS). At the top left, the CFS logo and name are shown, along with the text 'The Government of the Hong Kong Special Administrative Region'. To the right, there are logos for the Food and Environmental Hygiene Department and the Government of the Hong Kong Special Administrative Region. Below the header, there is a navigation bar with 'GovHK 香港政府一站通', language options for '繁體版' and '简体版', a search box, and links for 'SITE MAP' and an email icon. A left sidebar contains a menu with items such as 'Home', 'What's New', 'About Us', 'Press Release', 'Programme Areas', 'Committee and Forum', 'Import Control / Export Certification', 'Slaughterhouses and Food Animal Monitoring', 'Food Legislation / Guidelines', 'Risk Communication', 'Nutrient Information Inquiry', 'Public Forms', 'Frequently Asked Questions', 'Links', and 'Contact Us'. The main content area features a 'Consumer Zone' banner with an image of fresh vegetables and a hand holding a pepper. Below the banner are 'Email to Friends' and 'Print Friendly' buttons. The primary article is titled 'Iodine in Infant Formula' and includes a sub-header 'Banner of Iodine in Infant formula'. The article text states: 'The Centre for Food Safety (CFS) has embarked on a two-year programme to test the nutritional composition of infant and follow-up formula available in the local market and planned to collect 48 products for laboratory testing in 2012-2013. Among the 14 infant formulae collected in the first round of the survey, six of them were found to contain iodine level lower than the Codex prescribed requirements. Taking reference to the World Health Organization (WHO)'s recommended daily iodine intake level, two out of six of them have low level of iodine content to an extent that have health concerns to those infants who have been solely fed on these two products.' Below the article, there is a 'Frequently Asked Questions' section with two bullet points: 'Concerns of Locally Available Infant Formula' and 'Iodine for Infants'.

# How to tell if the iodine content of an infant formula fulfills the Codex requirement?

**APPROXIMATE ANALYSIS : 成份分析**

	單位 Units	每百克奶粉 Powder Per 100 G	標準調法每百毫升 *Standard Dilution Per 100 ML
Energy 熱量	Kcal 千卡	495	73.80
Protein 蛋白質	g 克	18.80	2.80
Fat 脂肪	g 克	24.30	3.62
Linoleic Acid 亞油酸	mg 毫克	4500	670.95
Linolenic Acid 亞麻酸	mg 毫克	550	82.01
Carbohydrate 碳水化合物	g 克	50.30	7.50
Moisture 水份	g 克	2.00	89.20
Taurine 氨基乙磺酸	mg 毫克	33.5	4.99
<b>MINERALS (Ash)</b>	g 克	4.70	0.70
Calcium 鈣	mg 毫克	771	114.96
Phosphorus 磷	mg 毫克	444	66.20
Potassium 鉀	mg 毫克	858	127.93
Sodium 鈉	mg 毫克	244	36.38
Magnesium 鎂	mg 毫克	58	8.65
Chloride 氯化物	mg 毫克	565	84.24
Zinc 鋅	mg 毫克	3.70	0.55
Iron 鐵	mg 毫克	8.00	1.19
Copper 銅	mcg 微克	440	65.6
Manganese 錳	mcg 微克	68.7	9.50
<b>Iodine 碘</b>	<b>mcg 微克</b>	<b>150.0</b>	<b>22.37</b>

Read the iodine content as listed on the nutritional information of the packing

# Codex requirement on Iodine level of formula milk

	Per 100 Kcal of formula milk	Per 100ml of reconstituted milk prepared by standard dilution
Infant Formula	10-60 $\mu$ g	6-42 $\mu$ g
Follow-up formula for 6 months or above	Not less than 5 $\mu$ g	Not less than 3 $\mu$ g

# How can a **6-12 months old baby** consume adequate iodine?

- Daily menu:
  - 600-700ml infant formula OR follow-up formula for 6 months or above AND
  - One egg yolk OR seawater fish (approximately 40g, i.e. 2-3 tablespoon)
- Every 3-4 week:
  - Use kelp or seaweed to cook congee or rice

# How can **baby 12 months or above** consume adequate iodine?

- Daily menu:

<p>480ml follow-up formula for 6 months or above <u>&amp;</u> One egg yolk OR seawater fish (approximately 40-60g, i.e. 2-4 tablespoon)</p>	<p><b>OR</b></p>	<p>240ml whole fat milk (fresh milk) <u>&amp;</u> Yoghurt (100g) <u>&amp;</u> One egg yolk OR seawater fish (approximately 40-60g, i.e. 2-4 tablespoon)</p>
---	------------------	---

- Every 3-4 week:
  - Use kelp or seaweed to cook congee or rice

# How to switch formula for my baby? (1)

## Newborn to 6 months old :

- Switch to infant formula of other brand directly
- Do **NOT** give high protein follow-up formula (for 6 months or above) as this will overload your baby' kidneys, leading to dehydration, gastroenteritis and even brain damages

# How to switch formula for my baby? (2)

## 6-12 months old :

- Switch to infant formula OR follow-up formula for 6 months or above
- At around 6 months, baby should start to take complementary foods. In the beginning, milk remains as the main source of nutrients.
- The amount of milk intake can be decreased gradually when your baby consumes substantial amounts and varieties of complementary foods
- Whole (full fat) milk is NOT recommended for babies less than 1 year old

# How to switch formula for my baby? (3)

## One year or older :

- Your baby should be consuming a balanced diet, with a good variety of solid foods that replace milk as the main source of nutrients
- Your baby can drink whole (full-fat) milk, such as chilled pasteurized cow's milk or UHT milk

# Special attention when switching formula

- Different brands of formula milk have different preparation methods. Follow the instructions on the package closely
- You may notice a change in your baby's bowel habits (e.g. frequency, texture and/or colour of the stool). This is normal as the amount of additives like iron, prebiotics, etc. does vary amongst the different brands. Do not over-worry and try to switch to a third brand.
- It is unlikely for baby to develop allergy when switching from one cow milk-based formula to another cow-milk based formula

# **Will my child develop hypothyroidism over a prolonged period of low iodine intake?**

- Not necessarily
- Because the body has compensatory mechanisms to maintain the thyroid hormones at normal level
- The effect of iodine deficiency on the development of hypothyroidism varies greatly among different populations / individuals. This may be related to genetic differences.

# Does feeding a child on infant formula with low iodine level cause damage to his body ?

➤ Not necessarily the case.

If the child does not have symptoms eg being tired and sleepy most of the time, growth or development delay



Thyroid function is normal or only mildly affected



No damaging effect on the body