

# 20

QUESTIONS ON  
IODINE  
DEFICIENCY  
DISORDERS



# PREFACE

It is now known that one out of every five people in India lives in identified iodine-deficient areas and is at a risk of being affected by Iodine Deficiency Disorders. These disorders, all caused by a lack of iodine in the diet, can range from goitre, mental retardation, and physical subnormality to cretinism. The majority of these disorders are permanent and incurable. However, each one of them is completely preventable. Iodated salt, consumed daily, offers complete protection against all iodine deficiency disorders, at an annual cost per person that is less than the price of a cup of tea.

To enable everyone to include iodine in their daily diet, a number of salt iodation plants have been set up, and in the near future iodated salt will be available in every town and village of India.

This booklet answers some common questions about iodine deficiency. If you have any further questions, please write to :

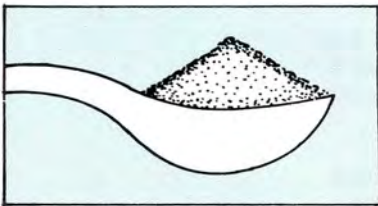
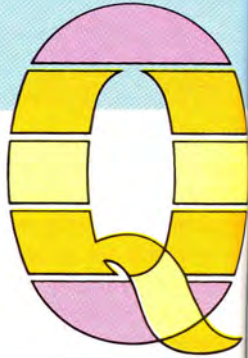
The Nutrition Advisor  
Ministry of  
Family Welfare,  
Nirman Bhavan,  
New Delhi.



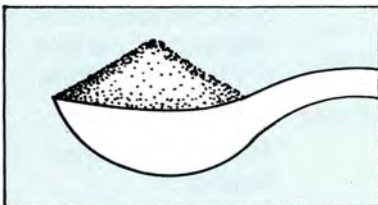


## What is Iodated (Iodised) Salt?

Iodated or iodised salt is used to prevent iodine deficiency. It is common salt containing minute quantities of an iodine compound. Iodated salt looks, tastes and smells exactly like ordinary salt and it should be used in the same way.

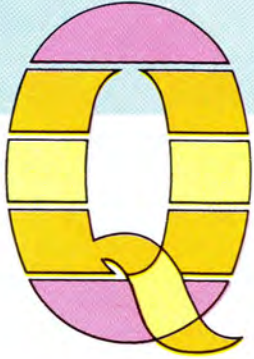


Iodated Salt



Common Salt

# 2



## What is Iodine?

Iodine is a natural element which is essential to human life. It is an essential nutrient. Some of the most vital functions of the human body depend upon a steady supply of iodine.

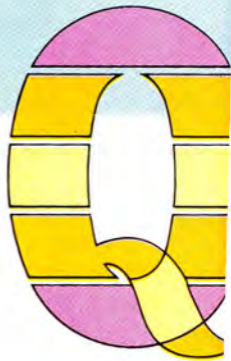




## Why is Iodine so important?

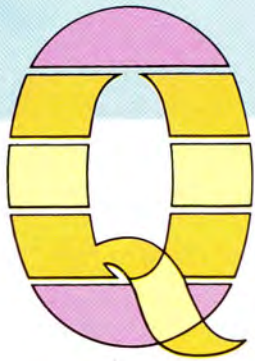
Iodine is essential for the normal growth, development and functioning of both the brain and body. A lack of iodine can give rise to a goitre and make a person dull, listless and easily tired. Such a person is less active than a normal individual.

But more importantly, without enough iodine, a newborn's brain and body can become permanently retarded and stunted. Iodine is vitally needed during early childhood, puberty and pregnancy. A woman who is deficient in iodine is likely to produce an abnormal child. If left untreated, the child's mental and physical condition worsens as he grows older.





How much  
Iodine does a  
person  
normally  
need?



The average daily requirement of an adult is 150 micrograms a day, an amount so small that it could fit onto a pinhead (1,000,000 micrograms = 1 gm). An average lifetime's requirement of an individual would add up to less than a teaspoonful.

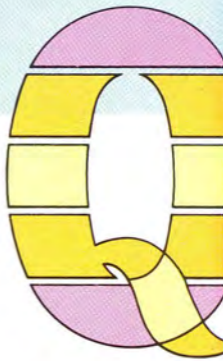
However, it is important that the body gets this iodine regularly everyday.

**This is why it must form part of every person's daily diet.**

# 5

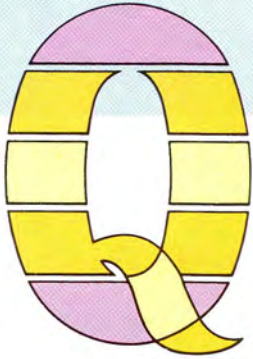
## From where do we normally get Iodine?

Iodine is present in its natural state in the soil and in water. So our normal requirement comes from crops grown on iodine-rich soil. But when the soil of any area lacks iodine, the crops too are deficient in this essential nutrient. Consequently, those people who live on iodine-deficient land and eat its crops regularly, do not get their daily requirement of this essential element.





What happens if a person does not get enough iodine?



Goitre is only one of the many consequences of iodine deficiency. A number of physical and mental abnormalities, some serious, some mild, result from iodine deficiency.

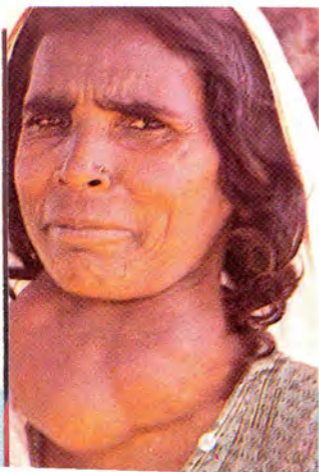
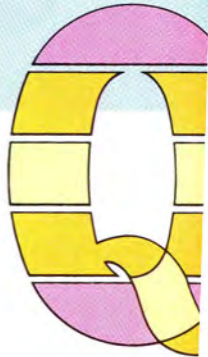




# 7

## What exactly is a Goitre?

A goitre is a swelling of the neck caused by an enlarged thyroid gland. When the body does not get enough iodine, the thyroid increases in size. Not all goitres are visible. Many of them, particularly in the early stages, can be detected only by an experienced doctor. It is only when a goitre grows quite large that it can be seen and recognised by everyone. A person with a goitre may also have other hidden iodine deficiency disorders.

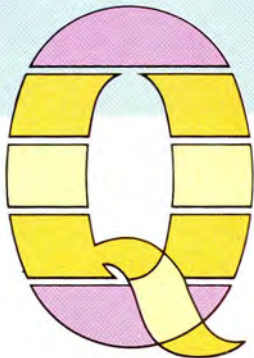




## What are Iodine Deficiency Disorders (IDD)?

Iodine Deficiency Disorders (IDD) form a spectrum of abnormalities which include goitre, mental retardation, deaf mutism, squint, difficulties in standing or walking normally and stunting of the limbs. Iodine-deficient women frequently suffer abortions and stillbirths. Their children

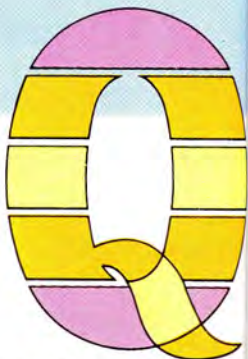
may be born deformed, mentally deficient or even cretins. All these problems are caused by a simple lack of iodine, and goitre is the least tragic of them.





## Why does a child become a Cretin?

A baby growing in the mother's womb needs a steady supply of iodine for the normal growth and development of its brain and body. Only the mother's body can provide this essential iodine. But if the mother is iodine-deficient, the child too is deprived of this much-needed nutrient. If the woman's deficiency is severe, the child's brain and body are seriously and permanently stunted, and he becomes a cretin, unable to walk, talk or think

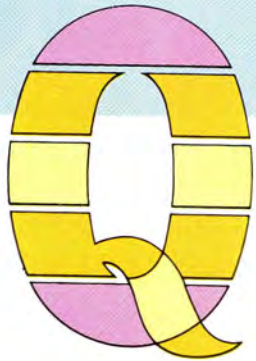


normally. If the mother's deficiency is minor, the child will still be affected, even though he may look normal. The damage to his brain usually shows up years later in poor school performance and an inability to perform normal, everyday tasks. Millions in our country suffer from this form of iodine deficiency and it affects the social and economic progress of whole regions.

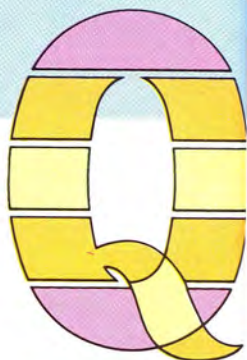
# 10

## Where does IDD occur in India?

The areas of severest iodine deficiency lie in the great sub-Himalayan belt that extends from Jammu and Kashmir, all along North India, to the North East, covering an area of 2500 square kms. But IDD has also been reported from Maharashtra, Gujarat, Madhya Pradesh, Andhra Pradesh, Orissa, Karnataka, Kerala,



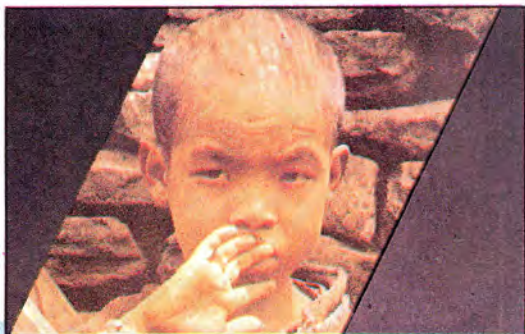
Tamil Nadu, Goa, Rajasthan, West Bengal and Delhi. In fact, no state/UT in India is free from IDD.



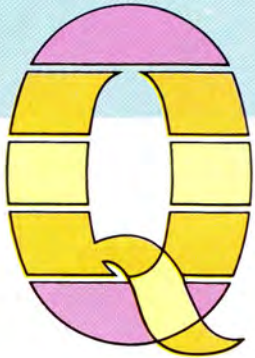
## Can the daily consumption of Iodated Salt cure Goitre, Cretinism and other Iodine Deficiency Disorders?

Cretinism is permanent and incurable. Like many other iodine deficiency disorders, with the exception of certain types of goitre, it cannot be cured but it can be easily prevented before it occurs. The regular consumption

of iodated salt provides protection to present and future generations against the tragic consequences of iodine deficiency disorders.



# 12



Are there are special foods that I can eat which are rich in Iodine?

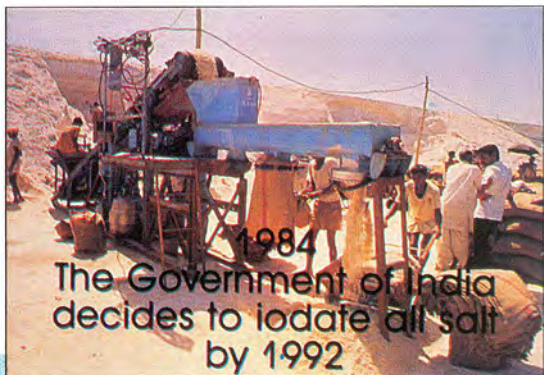
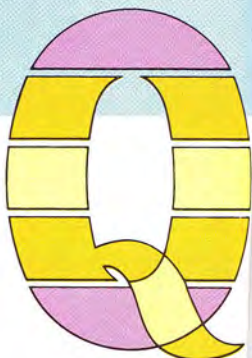
Except for certain types of seaweed, there are no foods that are inherently rich in iodine. All food derives its iodine from the soil on which it grows. If the soil is poor in iodine all the food grown on it will be low in iodine.

Therefore in areas of iodine deficiency, the only way to ensure a steady intake of essential iodine is by adding it to the diet in the form of iodated salt.

Why is Iodine added to salt? Can't it be taken separately, like medicines?

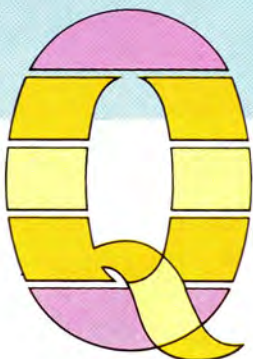
An important fact about iodine is that although it is needed in tiny amounts, it is needed regularly, every day. While it could be taken every day like medicine or a vitamin tablet, this would involve taking a tablet every day for the rest of your life. Salt, however, is something that we all use every day. All of us eat roughly the

same amount of salt 10 grams a day, and if it is iodated, we automatically get the right amount of iodine.



1984

The Government of India decides to iodate all salt by 1992



But if I live in an area that is not iodine-deficient, won't the extra iodine in the salt harm me?

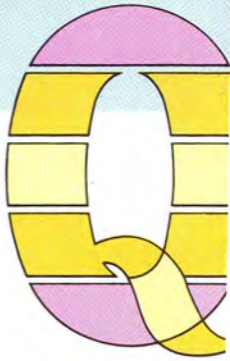
No, it will not. All of us need only a certain amount of iodine to function normally. If this iodine is already available to the body, it will simply reject any additional quantities and excrete it unused through the urine.

On the other hand, if you are deficient in iodine, your thyroid gland will use as much iodine as it needs and reject the rest. This makes iodated salt safe for everyone.

**Remember iodine is an essential nutrient — not a medicine.**



# 15



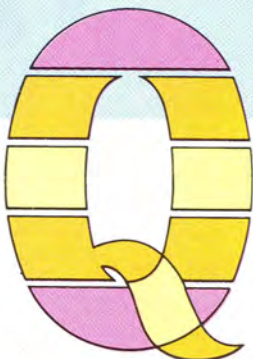
Can Iodated Salt be used by pregnant women, very young children or someone who is ill? Is it like ordinary salt?

Yes. Every person — young, old, sick or healthy — needs iodine every day. Pregnant women and young children need it even more than others, so it is not only safe but also necessary for them to use iodated salt every day.



# 16

## How can I tell if salt contains Iodine?



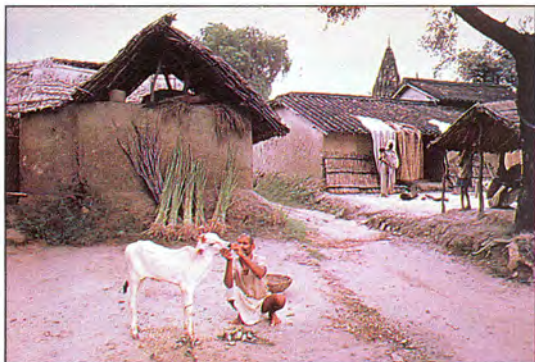
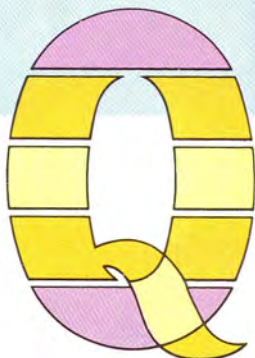
To ensure the use of iodated salt the Central Government has issued the notification banning the salt of non iodated salt for direct human consumption in the country with effect from 17<sup>th</sup> May, 2006 under the Prevention of Food Adulteration Act 1954. A low cost testing kit is available which allows you to test for the iodine content of the salt on the spot.



# 17

## Is it possible to use Iodated Salt for livestock?

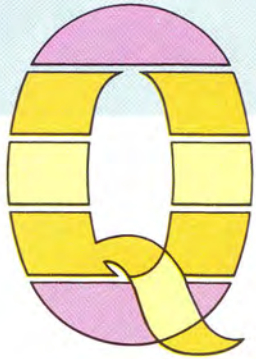
Yes. Iodated salt improves the health and productivity of animals and reduces the number of still births and miscarriages. Also, cattle who are fed iodated salt produce milk that is rich in iodine.



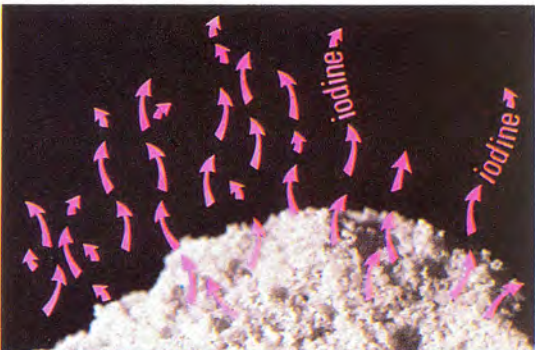
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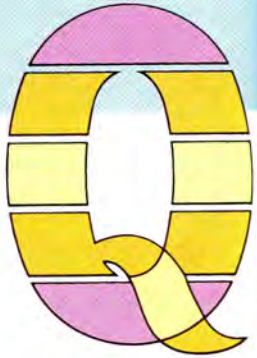
## Can Iodated Salt be stored like normal salt?

Storing iodated salt involves a few precautions. The iodine in the salt can be destroyed by prolonged exposure to direct sunlight and moisture. Therefore, store the salt in an airtight container made of plastic, wood, glass or clay, with a well-fitting lid. Make sure you consume iodated salt as early as possible.



If salt is left exposed iodine is lost.





## What should I do if I cannot find Iodated Salt in my local market?

If your local market does not stock iodated salt, write to the nearest Salt Commissioner's Office, the address of which is given below:

Salt Commissioner of India  
17, Shivaji Marg,  
Sawai Ram Singh Road,  
(Near Diggi House)  
Jaipur – 302 004.  
RAJASTHAN

Dy. Salt Commissioner  
11 Block, 11<sup>th</sup> Floor,  
Shastri Bhawan ,  
Nungambakkam.  
Post Box No. 706.  
Madras-600 006.  
TAMIL NADU.

Dy. Salt Commissioner  
Ajanta Commercial Centre  
B Block, 4<sup>th</sup> Floor,  
Ashram Road,  
Ahmedabad-380 014.  
GUJARAT

Dy. Salt Commissioner  
Exchange Building  
Sprott Road, Ballard Estate,  
Post Box No. 1561.  
Bombay-400 001  
MAHARASHTRA

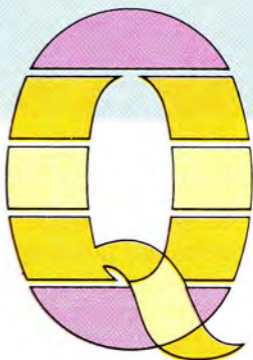
Asst. Salt Commissioner  
8 Lindsay Street, 4<sup>th</sup> Floor  
Calcutta 700 087  
WEST BENGAL

Asst. Salt Commissioner  
Salt Department Building  
Near Haathi Colony,  
Jamnagar – 361 001  
GUJARAT

Asst. Salt Commissioner  
East Godavri Distt. ,  
Kakinada-533 003 .  
ANDHRA PRADESH

Asst. Salt Commissioner  
80 George Road,  
Tuticorin – 628 001  
TAMIL NADU

# 20

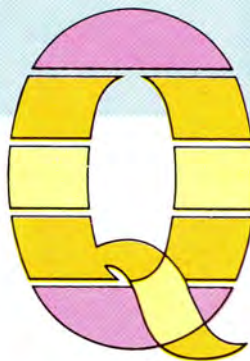


## How long will I have to keep using Iodated Salt?

If you live in an iodine-deficient environment, there is no likelihood of the deficiency being corrected at the source, namely, in the soil. On the contrary, the increased degradation of our environment is making the problem worse. Largescale deforestation, among other things, has led to increased flooding and erosion of the top soil, which

where goitre has been recorded





carries away the precious iodine. With the environmental deficiency growing worse day by day, iodine supplementation will have to become part of our everyday lives. Most countries in Europe and America have been iodating salt continuously since the 1920s, for this is the only safe, long-term answer to a problem that threatens the physical and mental well-being of millions of unsuspecting people. Using iodated salt every day is the only way to protect yourself and your children from the tragic and completely preventable effects of iodine deficiency. It is a small investment towards helping your children and their children to get the best chance to grow up with sound minds in healthy bodies.

## Do's

1. Ensure strict quality control measures at iodisation plants.
2. Always pack iodised salt in moisture proof sacks and seal these sacks properly.
3. Always shield iodised salt from moisture, sunlight and high temperature while storing.
4. Make sure salt that has been iodised first is also despatched first.
5. Stamp the date of manufacture, the name of the manufacturer, and the level of iodisation on the salt packets. This must be done because iodised salt should be consumed within a year of iodisation.
6. Whenever you buy salt, insist on iodised salt.

## Don'ts

1. Never use ordinary, unlined jute bags.
2. Never store in the open or in a damp, poorly ventilated godown.
3. Avoid transporting in open trucks or in open railway wagons.
4. Never store iodated salt beyond six months.



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