

Iodine

This Food Fact Sheet will tell you more about iodine, its food sources and how much you need.

What is iodine?

Iodine is a mineral that is important for health. It is needed to make the thyroid hormones. These hormones are needed for many body processes including growth, regulating metabolism and for the development of a baby's brain during pregnancy and early life.

Do we get enough iodine in the UK?

For many years iodine intake in the UK was thought to be more than adequate but recent research has shown mild iodine deficiency in schoolgirls and pregnant women. There is now concern that many adult women may not be getting enough iodine, particularly in pregnancy.

How much iodine do I need?

Life stage	Iodine required per day (mcg)*
Adults	150
Pregnant women	200
Breastfeeding women	200

*European Food Safety Authority (EFSA) recommendations.

What happens if I do not have enough iodine?

A low intake of iodine over a long period of time may cause your thyroid to work harder to keep the right amount of thyroid hormones in your blood. This can mean that your thyroid increases in size in order to trap iodine – this swelling, or “goitre”, may be visible in your neck. However, visible goitre due to low iodine intake is rare in the UK. It is more likely that having too little iodine in your diet may lead to low levels of thyroid hormones. If you have a deficiency of iodine when you are pregnant, your baby's brain may not develop as well as it could and this could affect your child's ability to learn in later years, for instance, lower IQ or poorer reading ability.



Before and during pregnancy and breastfeeding

As iodine is required from the early stages of pregnancy, you should make sure you have been having enough iodine in your diet for several months before you get pregnant. This is because you can build up good stores of iodine in your thyroid before you become pregnant which helps it to function well during pregnancy. Therefore if you are of childbearing age, and especially if you are planning a pregnancy, you should ensure that you meet the adult requirement for iodine.

During pregnancy, the amount of iodine you need increases. This is because you have to make sufficient thyroid hormones to transfer to your baby to help its brain develop correctly. You also have to supply all the iodine that the baby needs. Iodine deficiency in pregnancy may have serious consequences for your child so it is very important that you meet that higher iodine requirement if you are pregnant. Breastfeeding mums still need a higher amount of iodine, so their breast milk has enough iodine for their baby. This is because the brain is still developing at that early stage.

Where is iodine found in the diet?

Iodine is found in a range of foods, the richest sources being fish and dairy products. Seaweed is a concentrated source of iodine, but it can provide excessive amounts (particularly so in the case of brown seaweed such as kelp) and therefore eating seaweed more than once a week is not recommended, especially during pregnancy.

White fish contains more iodine than oily fish.

Milk and dairy products are the main sources of iodine for most people. Research in the UK has shown that organic milk has a 35-40% lower iodine content than conventional milk.

In many countries, iodine is added to table salt to give “iodised salt”. Iodised salt is not widely available in the UK but can be found in some branches of several supermarket chains. As government recommendations are to reduce salt intake for health reasons, you should not rely on iodised table salt as a means of increasing your iodine intake.

The actual amount of iodine in food varies according to the iodine content of the soil, farming practice, fish species and season. This makes it difficult to estimate iodine per portion. The figures in the table are therefore for guidance only. Remember to follow Government advice on foods to avoid during pregnancy.

Food		Portion	Average iodine/ portion (mcg) (actual iodine content will vary)
Milk and dairy products	Cow's milk	200ml	50-100**
	Organic cow's milk	200ml	30-60**
	Yoghurt	150g	50-100**
	Cheese	40g	15
Fish	Haddock	120g	390
	Cod	120g	230
	Plaice	130	30
	Salmon fillet	100g	14
	Canned tuna	100g	12
Shellfish	Prawns	60g	6
	Scampi	170g	160
Other	Eggs	1 egg (50g)	25
	Meat/Poultry	100g	10
	Nuts	25g	5
	Bread	1 slice (36g)	5
	Fruit and vegetables	1 portion (80g)	3

**Depending on the season, higher value in winter

Can I have too much iodine?

Yes – excessive iodine intake can cause thyroid problems and should be avoided.

Who is at risk of iodine deficiency?

Anyone who avoids fish and/or dairy products (e.g. due to allergy or intolerance) could be at risk

of iodine deficiency. Soya milk is rarely fortified with iodine (check the label) and therefore will not replace the iodine in cows' milk. Vegetarians and particularly vegans are at risk of iodine deficiency as they do not eat rich iodine sources (fish and/or dairy products).

What about an iodine supplement?

Most adults following a healthy, balanced diet that contains milk, dairy products and fish, should be able to meet their iodine requirements. A supplement containing iodine can help meet your iodine needs if you do not consume sufficient iodine-rich foods. If you have thyroid disease, are taking other medication, or have experienced iodine deficiency over many years, you should speak to your GP before taking additional iodine. Iodine in supplements should be in the form of “potassium iodide” or “potassium iodate” and should not exceed the daily adult requirement of 150 mcg. Do not use seaweed or kelp supplements as an iodine source. This is because the amount of iodine in such supplements can vary considerably from the value claimed on the label and can provide excessive quantities of iodine.

It can be difficult to meet the higher recommendations for iodine during pregnancy and breastfeeding through diet alone, especially if you do not eat rich sources of iodine. Many, but not all, multivitamin and mineral pregnancy supplements contain iodine. If the supplement contains iodine, it should provide around 140 or 150 mcg – the remainder of the requirement for pregnancy can be met by your diet. If you consume high quantities of iodine-rich foods during pregnancy, you may not need an iodine supplement – talk to your doctor if you are uncertain.

Summary

Iodine is important for the production of thyroid hormones. It is dangerous to have too little or too much iodine. Good dietary sources include fish, shellfish and dairy products. During pregnancy, iodine is essential for the correct development of the baby's brain.

Further information: Food Fact Sheets on other topics including Pregnancy are available at: www.bda.uk.com/foodfacts



This Food Factsheet is a public service of The British Dietetic Association (BDA) intended for information only. It is not a substitute for proper medical diagnosis or dietary advice given by a dietitian. If you need to see a dietitian, visit your GP for a referral or: www.freelancedietitians.org for a private dietitian. To check your dietitian is registered check www.hpc-uk.org

This Food Fact Sheet and others are available to download free of charge at www.bda.uk.com/foodfacts

Written by Dr Sarah Bath, Dietitian and Professor Margaret Rayman, RNut. Reviewed by Dr Sarah Bath.

The information sources used to develop this fact sheet are available at www.bda.uk.com/foodfacts

© BDA May 2016. Review date: May 2019.

