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IRON DEFICIENCY

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WHAT IS IRON DEFICIENCY?

Iron is a mineral found in every cell of the body. It is vital for good health and mental and physical wellbeing. Lack of iron is the most common single nutrient deficiency worldwide, with women and preschool children at particular risk. However, correcting an iron deficiency is usually straightforward.

WHY DO I NEED IRON?

Iron is one of 20 minerals found in food. It is stored in your liver, spleen and bone marrow. Iron is needed for optimum brain function in adults and children. Iron boosts your immune system, helps fight infection and is vital for normal child growth and intellectual development.

If your body lacks iron, it cannot make enough haemoglobin, the essential substance in your red blood cells that carries oxygen to the body and brain. This leads to iron-deficiency anaemia. There are few symptoms that tell you your iron stores are getting low, but once you become iron deficient or develop iron-deficiency anaemia, you may lack energy and get sick often.

WHO IS AT RISK?

You may develop iron deficiency if you do not eat iron-rich foods for a long period of time. People need more iron at certain times, such as in adolescence, pregnancy or when exercising a lot. Iron deficiency can be due to lengthy illness or losing blood from heavy periods or stomach ulcers – bleeding from the bowel is an important cause your doctor needs to exclude. Drugs (eg, aspirin and some anti-inflammatories) can also cause bleeding in the bowel.

Girls and women

Women need more iron because of blood loss during their periods. Women also need more than double the usual intake of iron during pregnancy. Women (or men) who follow restrictive or fad diets can become iron deficient. In New Zealand adolescent girls (especially Maori or Pacific Island) are at increased risk of iron-deficiency anaemia.

Infants and young children

Iron deficiency is very common in preschoolers, with up to a quarter of under-threes suffering from iron-deficiency anaemia. This can have a permanent impact on brain development, making such children less able to learn. Iron-deficient youngsters may also not gain enough weight, have problems with feeding and digestion, get tired easily and be more prone to infections and illness. Children between six and 24 months are at greatest risk as are low birthweight babies who gain weight rapidly in the first two years. Infants weaned to cow's milk (rather than iron-fortified formula) and who have fruit only as a snack (rather than with a meal to aid iron absorption) are also at increased risk.

RECOMMENDED DAILY DIETARY INTAKE OF IRON

1–3 years	9mg	
4–8 years	10mg	
9–13 years	8mg	
14–18 years	11mg (boys)	15mg (girls)
19–50 years	8mg (men)	18mg (women)
50+ years	8mg (men)	8mg (women)

Teenagers and athletes

Teenagers need extra nutrients to fuel growth spurts, but they may often have a poor diet. Iron is lost during heavy sweating and some athletes may have unbalanced diets.

Vegetarians and vegans

Iron in plant foods is not as easily absorbed as that in meat, so vegetarians and vegans may get too little iron. Tell your doctor if you don't eat meat so he or she can test your iron levels and, if necessary, refer you to a dietitian for advice.

WHAT ARE THE SYMPTOMS?

There may be no symptoms, or you may lack energy or your skin and the inside of your mouth may be pale. If you go on to develop iron-deficiency anaemia, you'll feel even more tired because not enough oxygen is getting to your cells. You may be unable to do very physical tasks, feel short of breath, be unable to concentrate and find learning

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difficult, have headaches, be irritable or be more prone to infections. Older people may get heart pain or angina, as the heart has to work harder.

HOW IS IT DIAGNOSED?

You may have some symptoms, or you may only find out at a routine blood test that reveals low iron levels or anaemia. More tests may be needed to pick up any medical condition causing your iron deficiency. If there are causes other than inadequate intake of iron from food then these causes need to be treated. However, iron deficiency can most often be corrected by iron supplements and/or changes to your diet. Your blood may still have to be tested regularly.

WHERE TO FIND IRON IN YOUR DIET

Meat and fish: beef, lamb (especially kidneys and liver), veal, pork, poultry, mussels, oysters, sardines and tuna

Fruits and vegetables: dried fruits such as prunes, figs, raisins, currants, peaches and prune and blackberry juice; greens (spinach, silverbeet, lettuce), beans and peas, pumpkin and sweet potatoes

Grains: oatmeal, iron-fortified breakfast cereals and wholegrain breads.

The iron in meat and fish is called haem iron and is more abundant and more easily absorbed than iron in vegetables (non-haem iron). Aim to get iron from a variety of sources – protein in meat also helps your gut absorb non-haem iron. Your body absorbs only a small amount of iron at a time, so it is important to eat a lot of iron-rich foods every day. To get the most out of those foods remember:

- eating foods rich in vitamin C (citrus fruits, leafy green vegetables) with your meal helps iron absorption
- drinking milk around meal times or when taking iron tablets can interfere with iron absorption
- drinking tea with meals also hinders iron uptake.

For information about the iron content of foods, visit: www.nutritionfoundation.org.nz/nutrition-facts/minerals/iron

Iron supplements

Iron supplements are usually tablets, but if you need a lot

IRON CONTENT OF 100g OF COMMON FOODS

lamb kidneys	[haem iron] 12mg
lean beef steak	[haem iron] 4.3mg
chicken breast	[haem iron] 1.9mg
tofu	[non-haem iron] 5.4mg
baked beans	[non-haem iron] 1.9mg
spinach	[non-haem iron] 1.3mg

of additional iron your doctor may give you an injection. Iron tablets can turn your bowel motions black and may cause indigestion, constipation, diarrhoea or nausea. If so, your doctor may change them. Vitamin C also helps you absorb the iron in tablets. A few people can store too much iron, so supplements should always be reviewed by your doctor.

Infants and young children

Breast milk contains enough iron for babies until six months of age. Meat, where possible, or iron-fortified cereals should be introduced by six to eight months. Bottle-fed or weaned babies should have iron-fortified formula until 12 months. Cow's milk should not be given in the first year of life: it is not a good source of iron and can cause stomach upsets with some bleeding in the gut and more iron loss. Preschoolers should not drink tea as it prevents iron absorption.

Make sure your child's diet is well balanced and has a wide variety of iron-rich foods. Refer to Plunket on when to introduce foods (Plunketline 0800 933 922). A liquid iron supplement may be needed if a child has iron deficiency.

Iron supplements should only be used when prescribed by a doctor. They should be stored out of reach of children as they are poisonous to small children in high doses.

WHAT HAPPENS IF IT IS NOT TREATED?

You can feel more and more unwell, particularly if an underlying cause of iron deficiency, such as stomach bleeding, is not treated. If infants go untreated, it can result in developmental and learning difficulties.

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