

# Iron deficiency (low iron levels in your body)

Iron deficiency means you don't have enough iron in your body. Iron is an important mineral that you usually get from the food you eat. It is stored within your bones, liver, spleen and is released when needed.

## Why do I need iron?

Everyone needs iron to be physically and mentally healthy. Iron is needed to make haemoglobin, which is a red protein that allows red blood cells to carry oxygen from your lungs to the rest of your body. Iron also:

- boosts your immune system
- helps your body to fight infections
- helps turn the food you eat into energy
- helps your brain and body develop normally.

### What happens if I don't have enough iron?

If the iron stored in your body gets low, you may:

- lack energy
- be more likely to develop infections (eg, colds or the flu).

Very low iron levels can lead to a condition called iron-deficiency anaemia (pronounced a-neem-ee-a). A blood test is usually taken to help diagnose this. People with iron deficiency anaemia (IDA) have fewer and smaller red blood cells than normal and less hemoglobin.

### Who is most at risk of iron deficiency?

#### Women and teenage girls

Women and teenage girls lose iron when they have their periods and a woman's iron requirements increase significantly during pregnancy.

#### Babies and young children

If left untreated, iron deficiency in babies and young children can lead to growth problems and learning and behavioural difficulties. An estimated one in four children under the age of three has iron deficiency in New Zealand.

Children more at risk of iron deficiency are those:

- aged between 6 months and 2 years
- who were born prematurely or with a low birth weight, especially if they then rapidly gained weight
- who were given cow's milk instead of breast milk or baby formula
- whose mothers had IDA while pregnant.

Babies should not drink cow's milk until they are at least 12 months old. Cow's milk does not have the right mix

of protein in it or contain enough iron. It can also cause stomach upsets which may cause more iron loss in the baby. Children under the age of five should not drink tea as it stops iron being absorbed.

#### Teenagers

Teenagers go through rapid growth spurts and they are at risk of iron deficiency if they are not eating good quality food that is high in iron.

#### Vegetarians and vegans

Iron in plants is not as well absorbed as iron in meat and vegetarians and vegans who are not eating enough plant-based foods high in iron may become iron deficient.

#### Athletes

Athletes lose iron through sweat and inflammation caused by intense exercise and may be at higher risk of iron deficiency.

#### Other people at risk

People who donate blood often or with clotting disorders; on low-calorie diets; with conditions such as coeliac disease, inflammatory bowel disease, or kidney disease; or who have had surgery are also at higher risk of iron deficiency.

### What are the signs of low iron levels?

People with low iron levels may feel tired or lack energy. Some have no symptoms. Symptoms are more likely if iron deficiency anemia develops and may include:

- exhaustion or feeling too tired to do physical activities
- feeling breathless
- difficulty concentrating or learning
- headaches
- getting sick or infections often
- feeling irritable or grumpy.

Some people may get heart pain or angina because their heart has to work harder when their blood lacks iron.

#### How can I find out what my iron levels are?

Your doctor can give you a form for a blood test to check your iron levels. Usually, low iron levels are treated with iron supplements and/or changes to your diet. Other tests may be done to check if there is an underlying reason for your low iron levels. Blood tests may be needed on a regular basis until your iron levels return to normal.

## How do I build my iron levels?

You can increase your iron levels by taking iron supplements and by eating food high in iron.

### Iron supplements

Iron is usually given as a tablet for around three to six months, sometimes up to 12 months. Even though you can buy iron tablets from a pharmacy you should not treat yourself with iron supplements without consulting a doctor. Iron tablets will also cost you less if they are prescribed.

Iron supplements can make your poo go black or cause indigestion, constipation, runny poos or make you feel like vomiting. Some iron tablets release iron more slowly than others (these are called modified-release tablets) and reduce the risk of some side effects. Vitamin C taken at the same time helps your body absorb more iron. Always keep iron supplements out of reach of children.

### Supplements for infants and young children

Breast milk contains enough iron for babies until they are six months of age. After the age of six months, babies need meat, cereals, and vegetables high in iron (check labels on baby food for iron content). Babies who are not breastfed should drink infant formula (not cow's milk) until they are 12 months old. Some children may need a liquid iron supplement if they have low levels of iron. Ask your doctor.

### Foods that are high in iron

**Meat and fish** – beef, lamb (especially kidneys and liver), pork, poultry, veal, mussels, oysters, sardines and tuna. Iron from these foods is called haem (you say heem) iron and is more easily absorbed into your body.

**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. Iron from these is called non-haem iron. You need to eat a lot more of these foods to get enough iron.

**Grains** – oatmeal, breakfast cereals with iron added to them (check the label) and whole-grain bread.

**Try and get iron from different foods** – your body absorbs only small amounts of iron at a time, so eat foods high in iron throughout the day. Also:

- eat foods rich in vitamin C (citrus fruits, leafy green vegetables) with your meal to help iron absorption
- don't drink milk or tea around meal times or when taking iron tablets as these can stop iron from being absorbed.

### How much iron should I eat each day?

These are the recommended daily amounts of iron

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

### Iron content of common foods

Green mussels	(haem iron) 7.5mg (1/2 cup)
Lean beef steak	(haem iron) 5.8mg (173g)
Chicken breast	(haem iron) 2mg (107g)
Tofu	(non-haem iron) 5.4mg (100g)
Baked beans	(non-haem iron) 1.6mg (1/2 cup)
Spinach	(non-haem iron) 2.5mg (1 cup)

For more information about the iron content of foods, go to [www.nutritionfoundation.org.nz/nutrition-facts/minerals/iron](http://www.nutritionfoundation.org.nz/nutrition-facts/minerals/iron)

### What if low iron levels aren't treated?

You will become sicker and sicker, particularly if there is a reason for your low iron levels, such as bleeding from your stomach which you don't know about. If low iron levels in children are not treated, their bodies and brains don't develop normally and they will have difficulty concentrating and learning. Babies with low iron levels that aren't treated can also have developmental delays and learning difficulties.

### Additional information

Talk to Plunket or your Well Child Tamariki Ora provider about when to start solids with babies and the sorts of foods you can give babies (Plunketline 0800 933 922).

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