

Fact sheet

What is Anaemia?

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Anaemia is when there are not enough red blood cells in your blood. This can happen if your body:

- doesn't make enough red blood cells
- loses too many red blood cells
- destroys red blood cells faster than they can be replaced

Red blood cells are the most common cells in blood. Their main function is to carry oxygen from the lungs to all parts of the body so it can be used as energy. Red blood cells contain a protein called haemoglobin (Hb) that carries the oxygen.

While many parts of the body help make red blood cells, most of the work is done in the bone marrow. A hormone called erythropoietin (EPO) is made by your kidneys. EPO tells your bone marrow to make new red blood cells, when your body needs them. When your kidneys aren't working well, they don't make enough EPO and you can get anaemia.

How is anaemia diagnosed?

A blood test is used to measure your level of haemoglobin (Hb) and determine if you have anaemia. Haemoglobin levels are often lower in people with chronic kidney disease. (CKD) Sometimes the cause is just the kidney disease, but in some cases further testing may be required to make sure there aren't other causes.

What are the symptoms of anaemia?

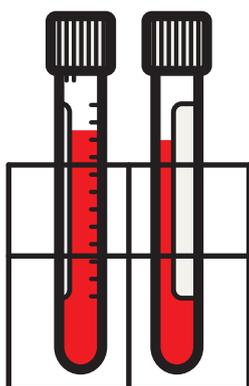
The symptoms of anaemia depend on how severe it is. Mild anaemia may not have any symptoms. Moderate and severe anaemia may give more symptoms. This usually happens in people with more severe stages of kidney disease.

You can feel:

- very weak
- extremely tired
- unusually cold
- short of breath
- dizzy
- unusually sad or depressed
- confused
- pale, e.g. a loss of pinkness in your lips, eyelid linings, gums and hands
- lack of appetite
- trouble sleeping

If you are experiencing any of these symptoms then talk to your healthcare team.

Anaemia is a serious disease and can put stress on your body. For example, when the number of red blood cells drop, your heart works harder to maintain the oxygen levels in your body. If the heart works too hard, the heart muscle can become tired, which can lead to heart failure.



What causes anaemia?

Anaemia can have many causes, including:

- kidney disease
- dietary deficiency - lack of iron, vitamin B12 or folic acid in the diet
- bone marrow disorders
- low levels of EPO that stimulate red blood cell production
- genetic disorders - such as sickle cell disease or thalassaemia
- immune disorders
- chronic disease - such as rheumatoid arthritis, lupus or cancers
- infections
- blood loss or bleeding (e.g., surgery or trauma)
- certain drugs and medications (including alcohol, antibiotics, anti-inflammatory drugs or anti-coagulant)

How is anaemia treated?

The treatment for anaemia varies depending on the type of anaemia and stage of chronic kidney disease. People with kidney disease are usually treated with:



Supplements - Sometimes a nutritional supplement of iron, B12 or folate is needed.

If your anaemia is caused by dietary or vitamin deficiencies, the use of appropriate supplements may treat anaemia. Regular reviews of your diet and supplements may be needed to prevent anaemia from returning. In more severe cases, the anaemia may be permanent, and lifelong treatment is needed.



Iron replacement - Kidney disease can also limit your body's ability to absorb iron. This can result in low levels of iron. Extra iron can be given in the form of tablets, injections or as an IV infusion (drip).

Erythropoiesis stimulating agent (ESA) - In more advanced cases of kidney disease, ESA injections are prescribed by a kidney specialist. Injections can be weekly, fortnightly or monthly. Regular blood tests are needed while on these injections and 'top ups' of iron is also needed, as these get used to make new blood cells. It is important that haemoglobin is kept within a certain range. If it gets too high, this can be dangerous and doses may need to be adjusted. ESA is injected into either your blood or into the fat tissue under your skin. You can also learn to give this injection yourself.

THINGS TO REMEMBER

- Anaemia is where you do not have enough red blood cells in your body and can make you feel weak, tired, cold and short of breath.
- Anaemia is common in people with chronic kidney disease, and can cause serious health problems if left untreated.
- Anaemia is commonly diagnosed using a blood test and treatment may include supplements, iron replacement, or hormone injections.

What does that word mean?

Bone Marrow - The tissue inside your bones that helps produce blood cells.

B12 - An essential vitamin found in animal products that helps with red blood cell production and nerve function. A shortage of this vitamin in the diet can lead to anaemia.

Dietary deficiency - A shortage of necessary nutrients required for your body to function properly. This can happen from poor diet, or your body's inability to absorb nutrients effectively and can lead to anaemia or other health conditions.

EPO (Erythropoietin) - A body chemical (hormone) mainly made by your kidneys that causes the bone marrow to make red blood cells. A lack of this hormone can cause anaemia.

Erythropoiesis stimulating agent - A special medicine that encourages your body to make more red blood cells.

Folate - A B vitamin that helps in the production of red blood cells. It is mostly found in cereal foods, grains, leafy green vegetables and legumes.

Haemoglobin - The part of red blood cells that helps blood carry oxygen around your body.

Iron - Red blood cells need iron to carry oxygen around your body, giving you the energy you need for your daily activities. EPO tells your body to make red blood cells. When you have kidney disease, your kidneys cannot make enough EPO. Low EPO levels cause your red blood cell count to drop and anaemia to develop.

Red blood cells - The most common cells found in your blood, containing haemoglobin which helps to carry oxygen around your body.

For more information about kidney or urinary health, please contact our free call Kidney Helpline on 1800 454 363.

Or visit our website kidney.org.au to access free health literature.

This is intended as a general introduction to this topic and is not meant to substitute for your doctor's or Health Professional's advice. All care is taken to ensure that the information is relevant to the reader and applicable to each state in Australia. It should be noted that Kidney Health Australia recognises that each person's experience is individual and that variations do occur in treatment and management due to personal circumstances, the health professional and the state one lives in. Should you require further information always consult your doctor or health professional.



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