

Patient Blood Management

Anaemia in Adults: The Basics

Understanding blood

Why are red blood cells so important?

Red blood cells contain a protein called haemoglobin, which has the important function of delivering oxygen from the lungs to the rest of the body. For men the normal haemoglobin reference range is between 130–180 g/L and for females the normal reference range is 120–160 g/L. Red blood cells are produced by the bone marrow and have a normal life span of 120 days.

New red blood cells are constantly required to replace old red blood cells with millions of red blood cells being released into the blood stream each day in healthy people. To produce new red blood cells the body needs key ingredients such as iron.

What is anaemia?

Anaemia is a medical term for low red blood cell count or haemoglobin. Anaemia can be caused by a variety of medical conditions.

What are the symptoms of anaemia?

Anaemia can cause a wide range of symptoms, including:

- Fatigue/tiredness
- Shortness of breath
- Dizziness and light-headedness
- Pale skin colour
- A sore tongue
- Unusual cravings for non-food substances, such as dirt, ice, paint, or clay
- Thin nails that may start to curve backward (called spoon nails)
- Poor muscle performance (for example, you may not be able to exercise for as long as usual)
- Restless leg syndrome. This means you have an irresistible urge to move your legs to relieve uncomfortable sensations, such as itching or a 'crawling' feeling

Sometimes there may be no obvious symptoms if your anaemia is mild or develops slowly over time.

What are the causes of anaemia?

Inadequate dietary intake – there are two types of dietary iron; haem-iron (found in animal tissue) and non-haem iron. The body absorbs haem-iron much more easily than non-haem iron. There are many reasons why the dietary intake of iron could be inadequate, including a poorly balanced vegetarian or vegan diet, chronic fad dieting or



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limited access to a wide range of fresh foods.

Blood loss – iron deficiency easily occurs in situations of chronic blood loss. Common causes include heavy periods, regular blood donation, regular nosebleeds, chronic disorders that involve bleeding (such as peptic ulcers, polyps or cancers in the large intestine) and certain medications, particularly aspirin.

Increased need – the adolescent growth spurt, pregnancy and breastfeeding are situations when the body requires more iron. If this increased need isn't met a deficiency can quickly occur.

Exercise – athletes are prone to iron deficiency because regular exercise increases the body's need for iron in a number of ways. For example, hard training promotes red blood cell production and iron is lost through sweating.

Inability to absorb iron – a healthy adult absorbs about 10 to 15 per cent of dietary iron but some people's bodies are unable to absorb or use iron from food.

Chronic diseases - Those with chronic diseases such as Chronic Kidney Disease will also be at risk.

A note on malabsorption

The only common bowel disorder which affects the absorption of iron is untreated coeliac disease. Everyone with iron deficiency should have tests to exclude disease. Your doctor can advise you about this condition and if you need the tests. People who have had gastric surgery, including obesity surgery (banding or bypass) may also develop iron deficiency because of absorption problems.

How do we find the causes?

A blood test is performed to determine if a person is anaemic. The blood test used measures both the number of red blood cells and the amount of haemoglobin in a person's blood. You should always see your doctor if you have any symptoms of anaemia. Your doctor will assess your symptoms, investigate accordingly and determine if any treatment is required. Sometimes the cause may be easily recognised; in other cases more tests may be required.

How is anaemia treated?

The treatment of anaemia is determined by the identification of the cause. In many cases treatment prescribed by a doctor may be as simple as iron tablets.

In other situations it may be a course of specific vitamins or more complex treatment such as a red blood cell transfusion, IV Iron or EPO (erythropoietin). Any underlying disease may also need to be treated. If you have been diagnosed with anaemia or iron deficient anaemia it is important that you are monitored by your GP. This can be done by having regular blood tests.

Self diagnosis

Taking iron supplements when you feel tired and run down will not help unless you have actually been diagnosed with iron deficiency. There may be another cause for your symptoms. Since iron supplements are available over the counter, it can be tempting to self-diagnose but this would be a mistake for many reasons including:

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- Fatigue, paleness, dizziness and breathlessness are symptomatic of many other conditions and disorders, not just iron deficiency anaemia. Some of these other conditions could be serious. Seeking treatment in the early stages of a disease can increase the chance of recovery and you may waste valuable time if you self-medicate rather than seeing your doctor
- The supplements won't alleviate your symptoms if you don't have iron deficiency anaemia
- Unnecessary iron supplementation can interfere with your body's absorption of other minerals, including zinc and copper

Possible side effects

Doses of iron prescribed for iron deficiency anaemia in adults are associated with constipation, nausea, vomiting and diarrhoea, especially if supplements are taken on an empty stomach. If iron tablets are irritating your stomach your doctor might advise taking them with food. You might try a different type of iron tablet or a liquid supplement. If you have any concerns or you think you have taken too much iron contact your GP or dial 111 for advice.

Please keep this sheet for your own records:

Date: _____

If you require any further information about anaemia please contact the Patient Blood Management Practitioner on 024 7696 6911 or the Hospital Transfusion Team by ringing 024 7696 4000 extension 25469 or 25470

The Trust has access to interpreting and translation services. If you need this information in another language or format please ask and we will do our best to meet your needs.

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