NHS
Blood and Transplant

Anaemia

Patient information

Patient Blood Management

What is anaemia?

Blood is a liquid in our body that contains certain cells and proteins which help our bodies function. The bone marrow inside our bones makes these cells in our blood.

There are three types of cells:

- white blood cells, which fight infections
- platelets, which form clots when we bleed
- red blood cells, which carry oxygen to all organs and tissues in our body. We need oxygen to convert food into energy

Red blood cells contain a protein called haemoglobin (Hb) which carries oxygen around the body. Having anaemia means having a low level of haemoglobin. This is either due to there not being enough red blood cells in your body or to having red blood cells which contain too little haemoglobin.

Red blood cells live for 120 days so the bone marrow must produce new cells all the time to replace them.

What are the signs and symptoms of anaemia?

If you have anaemia, you might have one or more of these:

- tiredness or weakness
- shortness of breath
- dizziness
- fast or pounding heartbeat
- ringing in your ears
- headache
- cold hands or feet
- pale (more than usual) or yellow skin
- chest pain
- hard to concentrate or feel confused
- a sore tongue or mouth sores
- short temper or moodiness
- loss of hair

Are there different types of anaemia?

Yes, there are different types of anaemia, and each needs a different treatment. These are the most common types:

- **Anaemia due to not having enough iron**

  Iron deficiency anaemia is common. Iron is needed for your body to make red blood cells. You might get anaemia if you don't get enough iron from your food or if iron is being lost because of bleeding. Low iron can also occur during pregnancy when demand increases to support the baby's growth.

- **Anaemia due to not having enough vitamin B12 or folate**

  B12 is found in meat and dairy produce. Green leafy vegetables like spinach and broccoli are rich in folate. You can get anaemia if you don't eat enough of these foods or if you cannot absorb these vitamins properly. Some illnesses or excessive alcohol consumption can cause this.

- **Anaemia due to a problem in the bone marrow**

  This happens when the bone marrow is not working properly. Some illnesses, cancers or chemotherapy can cause this.

- **Anaemia due to other medical problems**

  Inherited conditions like thalassaemia, kidney disease or other long-term illnesses can cause anaemia.

- **Anaemia due to increased destruction of red blood cells**

  This is also called 'haemolysis'. It can be due to inherited disorders like sickle cell anaemia, autoimmune problems, or in rare cases a reaction to medicines or infection.

- **Anaemia due to bleeding**

  This can be severe and sudden such as bleeding from a stomach ulcer or trauma. It can also be at a slower rate, for example due to heavy periods or hidden blood loss from the bowel or bladder. Slow bleeding usually leads to low iron levels.

What tests may be done to see if I am anaemic?

Blood tests

- Full blood count (FBC), to check the number and size of red cells in your blood and measure the haemoglobin level
- Ferritin and iron studies, which measure your iron stores
- Vitamin B12 and folate levels
- Liver and kidney tests
- Screening for haemoglobin variants or thalassaemia trait

Other investigations

These may include tests to see if there is bleeding somewhere – for example:

- gastroscopy (OGD) and colonoscopy (camera tests looking into the stomach and large bowel)
- urine tests looking for evidence of blood in the urine
- blood tests looking for coeliac disease

You may need referral to hospital for follow-up treatment.

Bone marrow biopsy (sample of tissue)

This is rarely required and will only be carried out by a specialist in a hospital if a problem with the bone marrow is suspected.

What treatments are available?

There are two main ways to treat anaemia:

1. Replacement treatment

You can take supplements to improve levels of the vitamins and minerals in your body. You might be given:

- **iron** – as tablets, liquid, or in rare cases an intravenous drip in hospital
- **folic acid** – tablets
- **vitamin B12** – as tablets or an injection into the muscle

2. Treatment of the underlying problem or disease

Your healthcare team will explain the treatment options for you.

Blood transfusion may be considered for severe anaemia where the underlying cause cannot be treated, or if there has been sudden major blood loss.

What can I do to help?

There are some things you can do to help yourself. These include:

- eating a healthy balanced diet including fruit, vegetables, protein (eggs, fish, meat, nuts or pulses) and carbohydrates (potatoes or pasta).
  Read more in our leaflet "Iron in your diet"
- talking to your doctor, nurse or midwife if you think you have symptoms of anaemia (as listed above)
- talking to your doctor if you have noticed blood in your bowel motions or urine, or if you have persistent heavy periods
- talking to your healthcare team before taking any alternative medicines, herbal preparations or over-the-counter treatments for anaemia, as they may interact with prescribed medications. Some foods can reduce uptake of iron from tablets, so your healthcare team can also explain the best way to take these

Patient Blood Management (PBM)

PBM is an evidence-based approach. It aims to improve patient outcomes by managing anaemia and conserving the patient's own blood. It promotes patient choice and best safe practices.

PBM offers alternatives to blood transfusion and ensures that transfusion is given only to those patients who really need it, such as in an emergency. If you do need a transfusion, the "Receiving a blood transfusion" leaflet may help. Please ask your healthcare team for a copy of other leaflets relevant to you.

You can also access all our leaflets online with the QR code provided.

Contact us

We would welcome your feedback and comments on this leaflet.

You can contact us in the following ways:

By post to:

Patient Blood Management
NHS Blood and Transplant
500 North Bristol Park
Northway
Filton
Bristol
BS34 7QH

By email to:

PBM.team@nhsbt.nhs.uk

Or by phone:

01865 381010

This leaflet was prepared by NHS Blood and Transplant in collaboration with the National Blood Transfusion Committee. Further supplies can be obtained by accessing https://hospital.nhsbtleaflets.co.uk

Individual copies of this leaflet can be obtained by calling **01865 381010**.

The public can obtain the evidence sources for this leaflet by calling **01865 381010**.

NHS Blood and Transplant saves and improves lives by providing a **safe, reliable and efficient** supply of blood and associated services to the NHS in England. We are the organ donor organisation for the UK and are responsible for matching and allocating donated organs. We rely on thousands of members of the public who voluntarily donate their blood, organs, tissues and stem cells.

For more information:

Visit **nhsbt.nhs.uk**

Email **enquiries@nhsbt.nhs.uk**

Call **0300 123 23 23**

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