



Royal Free London
NHS Foundation Trust

Anaemia



Information for patients

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Dear patient

Your doctor has referred you to the haematology team at the Royal Free London because you are anaemic. This means that you do not have enough haemoglobin in your blood, and you may be experiencing symptoms such as fatigue/ tiredness. More information about anaemia is available in this booklet.

Before your appointment you will receive a letter and an invitation to come in for blood tests and possibly other investigations. On the day of your clinic appointment you will see one of the haematology doctors who will ask you about your symptoms and examine you. The doctor may be able to make a diagnosis during your appointment to explain your symptoms. They may then offer treatment straightaway on the same day as your appointment.

This might be collecting a prescription for tablets or going to our day ward to have a usually short intravenous infusion. A return visit to the hospital for a second appointment may be necessary at a later date to complete treatment, or for further investigations. In these cases the doctor will see you again and depending on the results discuss whether more treatment is needed and what that might be.

On the day of your appointment you may also meet the clinical nurse specialist who will be able to offer you further information and support.

We look forward to seeing you for your appointment. It is important that you come on the day of the appointment, or let us know in advance if you want us to reschedule it for you. If you have any questions or concerns in the meantime, please contact the department on 020 7830 2301.

Kind regards

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What is anaemia?

Anaemia is the result of either not having enough red cells to take oxygen around the body, or having faulty red cells that are unable to carry enough oxygen. It is measured in the blood by the level of haemoglobin, sometimes called 'Hb'.

Blood is a complex fluid containing lots of proteins and a number of different types of cells to help our body to function correctly. These cells include 'white cells' which help to fight infection, 'platelets' which help us to form clots when we bleed, and 'red cells' which carry oxygen. Oxygen is carried by the red cells to all our organs, such as the heart, kidneys, liver and tissues such as muscle, to help them convert food into energy for the body to work. Red blood cells last approximately 120 days so the body (bone marrow) has to constantly make new ones to replace them.

What are the signs and symptoms of anaemia?

The following can be features of anaemia:

- weakness
- shortness of breath
- dizziness
- fast or irregular heartbeat
- pounding or 'whooshing' in your ears
- headache
- cold hands or feet
- pale or yellow skin
- chest pain
- lack of concentration

Am I at risk of anaemia?

Anaemia can be caused in many ways. You are at a higher risk if you are young and have not built up a store of iron, essential vitamins and minerals, have a diet lacking in essential vitamins and minerals, or suffer from a variety of diseases such as

inflammatory bowel disease, bone marrow disorders, chronic illnesses such as rheumatoid arthritis, heart disease, chronic liver diseases or severe infections.

You would also be at risk if you have bowel cancer or have recently had major surgery.

Girls and women having periods can also become anaemic. Pregnant women may become anaemic as the baby takes essential iron for its own development from their mother.

The risk of anaemia also increases with age as our stores of vitamins and minerals decrease.

Are there different types of anaemia?

Yes, there are many different types of anaemia. The most common types are listed below:

1. Anaemia due to an under-production of red cells can have different causes including:

- A shortage of iron or vitamins: 'Iron deficiency anaemia' is caused by a lack of iron in the body. There might be a problem with not having enough iron in your diet or in absorbing it from your diet or you might have used it all up during pregnancy, surgery or bleeding.
- Vitamin B12 or folate deficiency: This is usually as a result of inadequate intake of foods rich in vitamin B12 or folate, or more commonly, the inability of the body to absorb it. Examples of this include pernicious anaemia and coeliac disease.
- Anaemia of chronic illness: This is also sometimes called 'functional iron deficiency'. In this case the body has plenty of iron in its stores, but inflammation caused

by chronic illnesses or infections can block access to the iron, so the bone marrow does not have enough iron available to produce good quality red blood cells. This is more common as we get older.

2. Anaemia due to a problem in the bone marrow, where red cells are made, can be caused by many different diseases, for example:

- Patients with kidney failure may be unable to produce the hormone erythropoietin which is the messenger telling the bone marrow to produce more red cells.
- Cancer may invade the bone marrow or some drugs, such as chemotherapy, may also slow down the rate at which red cells are made.
- There are other types of bone marrow disease that can cause anaemia such as myelodysplastic syndrome or aplastic anaemia.
- Infections can also reduce red cell production.

3. Anaemia due to inherited disorders

These can affect haemoglobin production, for example thalassaemia.

4. Anaemia due to excessive destruction of red cells

This occurs in immune haemolytic anaemia and inherited disorders such as sickle cell anaemia.

5. Anaemia due to bleeding

This can be severe and sudden, such as bleeding from a gastric ulcer, or slow where blood loss is gradual, such as heavy periods or hidden blood loss from the bowel. When blood loss is slow, the anaemia develops gradually and is often associated with a shortage of iron as the iron is lost from the body.

What tests are done to see if I am anaemic?

Blood tests

- Full blood count (FBC) – checks the number and quality of red cells in your blood including the haemoglobin.
- Vitamin B12 and folate levels – checks to see if you have enough of these vitamins in your body to help make healthy red cells.
- Ferritin and iron saturation levels – checks the amount of iron you have in store (ferritin) and the amount available to use (iron saturation).
- Direct antiglobulin test (DAT) demonstrates whether or not the body's immune system is breaking down its own red cells.
- Blood chemistry tests to demonstrate whether organs such as the liver and kidneys are working well.

Bone marrow biopsy

- This is rarely required and will only be carried out by a specialist in a hospital.

Other investigations

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

- bowel investigations such as colonoscopy (examination of the large bowel)
- endoscopy (examination of the gut)
- gynaecological (female reproductive system)
- urinary tract investigations such as a cystoscopy (examination of the bladder)

What treatments are available?

There are two general approaches to the treatment of anaemia:

1. **Replacement therapy:** There are several different types of treatment available which might include oral iron tablets, intravenous iron, iron injections and blood transfusion.
2. **Treatment of the underlying problem or disease:** These treatments include:
 - Drug therapy such as steroids or immunoglobulins to treat an immune problem
 - Antibiotics for infections
 - Chemotherapy for cancer
 - Surgery for example to treat a bleeding problem.

You may wish to discuss which is the best treatment for you with your doctor, nurse or midwife.

Can I help myself?

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

- Eat a healthy varied diet including fruit, vegetables, foods high in protein (for example eggs, fish, meat, beans and pulses) and carbohydrates such as potatoes, pasta, rice, cereals and bread. NHSBT provide a patient information leaflet called 'Iron in your diet' which can help you.
- Talk to your doctor, nurse or midwife if you think you have any of the symptoms of anaemia listed in this leaflet or have noticed blood in your bowel motions or urine, or have persistent heavy periods.
- Always discuss any alternative medicine, herbal preparation or over-the-counter treatments for anaemia with a healthcare professional before taking them, as they may react with any prescribed medications.

Contact us

Haematology department

Phone: 020 7830 2301

Anaemia ‘one stop’ clinic: a patient journey video

If you have an appointment at our anaemia clinic and would like to know what to expect or you would like more information about the condition, please watch our video here:

www.royalfree.nhs.uk/services/services-a-z/haematology/anaemia-clinic/

More information

For more information about the haematology service at the Royal Free London, please visit our website:

www.royalfree.nhs.uk/services/services-a-z/haematology

Your feedback

If you have any feedback on this leaflet or for a list of references for it, please email: rf.communications@nhs.net

Alternative formats

This leaflet is also available in large print. If you need this leaflet in another format – for example Braille, a language other than English or audio – please speak to a member of staff.

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