

# Iron Deficiency Anaemia



## Gastroenterology information leaflet

### What is Iron Deficiency Anaemia (IDA)?

Anaemia (a low blood count) reduces the amount of oxygen that can be carried in the blood; therefore, anaemia can make us feel tired or short of breath.

Iron deficiency is the most common cause of anaemia in the UK. Iron deficiency occurs when we don't take on board enough iron or can occur when we are using up the iron to make blood faster than we can take it on board. Investigating iron deficiency anaemia is often undertaken by the gastroenterology team (physicians of the gut) as may represent an underlying gut condition.

### What is iron and where does it come from?

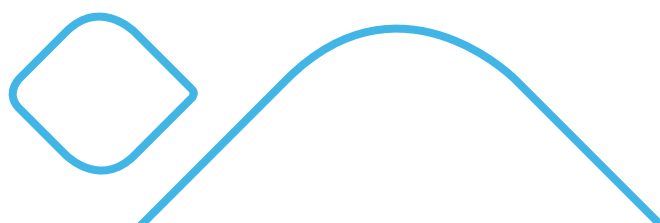
Iron is essential for a healthy body. It is used to make haemoglobin, which then carries oxygen around the body in red blood cells.

Iron can be found in meat, liver, green vegetables, flour, eggs and other foods. Some people who have a low iron diet, may develop anaemia if other factors arise, such as pregnancy or heavy periods.

Meat tends to be richer than vegetables in iron, and so vegetarians and vegans are at greater risk of iron deficiency. However, green vegetables are a good source of iron, as such, a broad vegetarian diet should not lead to deficiency. A restricted diet such as a vegan or a limited vegetarian diet sometimes does not contain enough iron.

### What are the symptoms of Iron Deficiency Anaemia (IDA)?

Iron deficiency commonly causes tiredness, difficulty in concentrating, and dizziness. Sometimes if your iron deficiency is severe, it can cause breathlessness on exertion, palpitations, hair changes, hair loss, nail changes, a sore tongue, sores at the corner of your mouth, tinnitus (ringing in the ears) and occasionally strange cravings for non-food substances (pica). In severe cases heart failure and a reduced immunity to infections can occur.



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## What are the causes of Iron Deficiency Anaemia (IDA)?

### Common causes of blood loss outside the gut

Some people experience obvious blood loss, such as nosebleeds, bruising, coughing, or vomiting up blood, blood in the urine, fresh or old blood in the stool, or are regular blood donors; any unintentional obvious blood loss should be reported to the clinician reviewing your iron deficiency anaemia. Once these are excluded, blood loss from the gut (gastrointestinal tract) is the most common cause of IDA in adult men and postmenopausal women, as small amounts of blood are difficult to detect, particularly if they are digested and / or mixed in stools.

In pre-menopausal women, blood loss due to heavy menstrual periods (menorrhagia) is the most common cause of IDA. The amount of iron eaten may not be enough to replace the iron that is lost during each period. Outside the UK, in certain tropical countries, Hookworm infection is the commonest cause of IDA.

### Gut causes of blood loss

Several conditions of the gut can lead to bleeding, for example, stomach or duodenal ulcers, haemorrhoids (piles), colitis (an inflamed bowel), and other bowel disorders. Around 5% – 10% (up to one in ten) of those with IDA have bowel cancer and around 5% (one in twenty) have cancer of the upper gut. Finding cancer early can increase the treatment options and chance of cure. Most people with IDA won't have cancer.

### Medications that can cause IDA (iron deficiency anaemia)

Some medicines can sometimes cause bleeding from the gut without causing symptoms, for example aspirin, and anti-inflammatory painkillers such as ibuprofen, diclofenac and naproxen. Blood thinning medications such as warfarin can worsen blood loss. Proton pump inhibitors like Omeprazole and Lansoprazole may impair iron absorption.

### Rarer cause of IDA (iron deficiency anaemia)

Subtle bleeding from disease of the kidney or bladder may not be noticed in the urine, however, enough may be lost to cause anaemia. **Everyone with IDA should have their urine checked for blood;** your general practitioner can dip your urine. Increased iron requirements such as pregnancy, growing children and athletes, may also lead to an iron deficiency anaemia.

Iron is absorbed from the small intestine. Sometimes the gut can't absorb enough iron - for example, in coeliac disease (gluten intolerance). **Everyone with IDA should have a blood test for coeliac disease,** the blood test is called a TTG (tissue transglutaminase); one in twenty people with IDA have coeliac disease.

Other less common factors affecting iron absorption include removal of some of the stomach (a partial or total gastrectomy), Helicobacter pylori infection in the stomach that impairs iron uptake and increases iron loss, and diets high in phytates (found in chapatis) and polyphenols (found in tea).

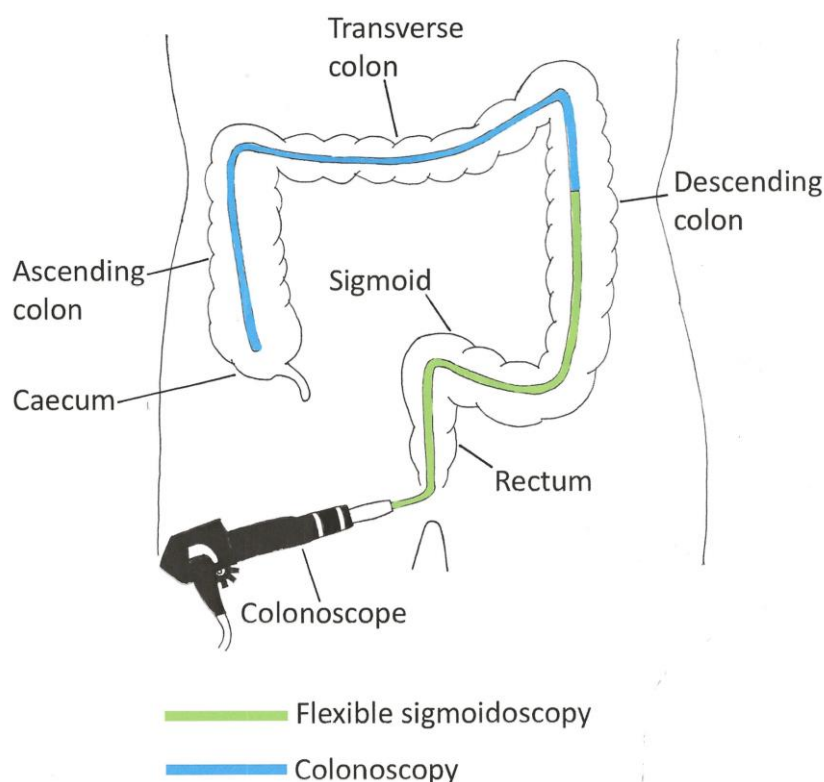
## How is Iron Deficiency Anaemia (IDA) diagnosed?

### Blood tests

Initial investigation of IDA is with blood tests to demonstrate the anaemia with a full blood count (FBC). These are to explore if you are short of a vitamin or mineral needed to make blood, and include testing a ferritin (which reflects the iron stores in the body), vitamin B12 and folate; occasionally an iron level is measured too. A TTG (tissue transglutaminase) is recommended (after eating gluten with two meals a day for the previous six weeks) to look for coeliac disease. In those known to have coeliac disease, a TTG is performed on a gluten free diet to ensure the disease is under control.

### Endoscopic tests

In order to rule out serious causes of IDA, most people are offered investigations of their gut to identify a source for internal bleeding, even if there are no gut symptoms. Commonly, endoscopy is offered of the upper and lower gut to carefully examine the gut wall. Endoscopy involves a slim flexible tube with a bright light at the end (called an endoscope) passing into the gut. The upper gut can be examined via the nose (trans-nasal endoscopy) or mouth (gastroscopy or OGD). The lower gut may be examined with an endoscopic test (colonoscopy) or an imaging test (CT colonography), both of which involve taking bowel preparation (strong laxatives to clear the bowel). Some people may not be able to tolerate the investigations, or prefer a non-invasive approach. They can be offered a 'plain' CT scan (computerised tomography) to look at the gut; this does not involve bowel preparation; it is less sensitive than endoscopic tests or CT colonography, so can miss small or subtle lesions.



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Further information is available on all five investigations:



Trans-nasal endoscopy:  
[https://www.ruh.nhs.uk/patients/patient\\_information/GAS043\\_Trans-Nasal\\_Endoscopy.pdf](https://www.ruh.nhs.uk/patients/patient_information/GAS043_Trans-Nasal_Endoscopy.pdf)



Gastroscopy (OGD):  
[https://www.ruh.nhs.uk/patients/patient\\_information/GAS014\\_Having\\_an\\_Upper\\_Gastrointestinal\\_Endoscopy.pdf](https://www.ruh.nhs.uk/patients/patient_information/GAS014_Having_an_Upper_Gastrointestinal_Endoscopy.pdf)



Colonoscopy:  
[https://www.ruh.nhs.uk/patients/services/gastroenterology/documents/GAS015\\_Having\\_a\\_lower\\_gastrointestinal\\_endoscopy.pdf](https://www.ruh.nhs.uk/patients/services/gastroenterology/documents/GAS015_Having_a_lower_gastrointestinal_endoscopy.pdf)



CT colonography:  
[https://www.ruh.nhs.uk/patients/patient\\_information/RAD062\\_Instructions\\_Standard\\_Full\\_Preparation\\_CT\\_Virtual\\_Colonography.pdf](https://www.ruh.nhs.uk/patients/patient_information/RAD062_Instructions_Standard_Full_Preparation_CT_Virtual_Colonography.pdf)



'Plain' CT scan:  
[https://www.ruh.nhs.uk/patients/patient\\_information/RAD027\\_Having\\_a\\_CT\\_scan.pdf](https://www.ruh.nhs.uk/patients/patient_information/RAD027_Having_a_CT_scan.pdf)

In addition, your GP will check a urine sample to look for traces of blood that may be coming from your kidneys or bladder that may not be noticed in your urine.

## How is Iron Deficiency Anaemia (IDA) treated?

Iron deficiency is treated by taking iron replacement. This is most commonly with oral iron tablets, such as ferrous sulphate, ferrous gluconate or ferrous fumarate once daily, or alternate days. If these are not tolerated ferric maltol can be offered as an alternate. In those who can't tolerate ferric maltol, iron replacement can be given through the vein (intravenous).

National guidelines suggest that iron supplements are monitored with full blood count (FBC) testing 4 weeks after initiation of treatment to ensure a response. Once a normal haemoglobin is achieved, iron supplements should be given for a further three months to build up iron stores. After stopping iron supplements, the FBC should be checked at 3, 6, 12 and 24 months. Should normal levels not be achieved, or levels fall whilst off supplements, referral back to gastroenterology to consider further investigations is recommended.

## Can my diet improve my IDA?

A balanced diet should contain enough iron. Food that are particularly good sources of iron include:

- Lean red meat, turkey and chicken
- Liver is rich in iron, but is not recommended for pregnant women because of its high Vitamin A content
- Fish, particularly oily fish. This can be frozen or canned (such as mackerel, sardines and pilchards)
- Eggs
- Breakfast cereals that have been 'fortified' with iron
- Pulses and beans - in particular canned baked beans, chickpeas and lentils
- Nuts (including peanut butter) and seeds
- Brown rice
- Tofu
- Bread, wholemeal or brown bread are best
- Leafy green vegetables, particularly curly kale, watercress, and broccoli
- Dried fruit especially dried apricots, raisins and prunes



Vitamin C (ascorbic acid) may help the body to absorb iron, so fresh fruits, vegetables or fruit juice are helpful with meals.

Tea may reduce the absorption of iron from foods. Tea should only be drunk between meals, and not before, during or after meals.

## When is a blood transfusion needed?

A blood transfusion is different to iron replacement therapy. As such it works much quicker than iron replacement therapy (where your own body makes the new red blood cells after the iron is given), but there are potential side effects from transfusions, and blood is a precious resource. Blood transfusions in iron deficiency are reserved for severe anaemia, with associated symptoms related to the heart or lungs such as chest pains, palpitations, and breathlessness.

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## What happens after my investigations?

Written results are provided when attending for an endoscopic test. Your clinician will often write to you with the results of a CT scan, and any biopsies taken at the time of an endoscopy; often no further investigations are required. Your GP (general practitioner) may also discuss results with you, or you can contact the gastroenterology team for clarification on ruh-tr.gastrosecs@nhs.net.

It is essential to identify the underlying cause for the iron deficiency anaemia. If this is identified, and treated, such as with diet changes, or treatment for blood loss from the gut, then iron deficiency should not recur. Should normal levels however not be achieved, or levels fall whilst off iron replacement then further investigations may be required. In this context referral back to the gastroenterology team may be advised, where further investigation of the small bowel can be considered. Further investigations can include a capsule endoscopy or an imaging study.



Capsule Endoscopy:

[https://www.ruh.nhs.uk/patients/patient\\_information/GAS049\\_Capsule\\_Endoscopy.pdf](https://www.ruh.nhs.uk/patients/patient_information/GAS049_Capsule_Endoscopy.pdf)

## Questions and queries

If you have any queries regarding the information in this booklet, please do not hesitate to call the department on the number on your clinic letter, and a member of the team will be pleased to help you.

If you cannot accept an endoscopy appointment date, it is important that you telephone as soon as possible so that your date may be offered to another patient.

To cancel or change an endoscopy appointment: 01225 821412.

To discuss an endoscopy test, ask questions about the preparation and medication: 01225 821425 or 01225 821788.

To cancel or change a CT scan appointment: 01225 825898 or ruh-tr.radiologyresults@nhs.net

If you would like this leaflet in email form, large print, braille or another language, please contact the Patient Support and Complaints team on 01225 825656.

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