

Referral Support Service

Gastroenterology

GA04

Iron Deficiency Anaemia (IDA)

Introduction¹

Iron deficiency anaemia (IDA) occurs in 2-5% of adult men and postmenopausal women in the developed world and is a common cause of referral to gastroenterologists (4-13% of referrals). While menstrual blood loss is the most common cause of IDA in premenopausal women, blood loss from the GI tract is the most common cause in adult men and postmenopausal women. Asymptomatic colonic and gastric carcinoma may present with IDA, and seeking these conditions is a priority in patients with IDA. Malabsorption (most commonly from coeliac disease in the UK), poor dietary intake, blood donation, gastrectomy and use of NSAIDs are common causes of IDA, and there are many other possible causes. IDA is often multifactorial. Its management is often suboptimal, with most patients being incompletely investigated or not investigated at all. Dual pathology - that is, the presence of a significant cause of bleeding in both upper and lower GI tracts - may occur in 1-10% of patients or more, and should be increasingly considered, the older the patient.

Definition

Anaemia in male (Hb <130g/L) or female (Hb <115g/L) AND

- ferritin <22mcg/L or <20mcg/L respectively OR
- CRP >5mg/L with iron deficiency (saturation < 15% with **both low Fe and high TIBC**) OR
- low MCV < 77 and MCH < 27 in the absence of chronic disease or haemoglobinopathy (Hb electrophoresis recommended when microcytosis and hypochromia are present in patients of appropriate ethnic background) OR
- falling MCV and MCH OR
- anaemia not responding to iron replacement therapy (Hb will increase by 10g/L or more over 2 weeks if patient is iron deficient)

Iron deficiency without anaemia: low ferritin: male <22 and female <20 without anaemia.

Referral guidance

The likelihood of a cause being found increases with age and severity of anaemia. Consider this when deciding on routine, urgent or 2 week wait referral.

Indications for fast track referral

Responsible GP: Dr Shaun O'Connell & Alison Forrester

Responsible Consultant: James Turvill

Responsible Pharmacist: Laura Angus

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1. For people of any age who present with:
 - IDA *with* dyspepsia — **refer urgently** (within 2 weeks) for endoscopy.
 - IDA *without* dyspepsia — recognise the possibility of gastrointestinal cancer and **consider urgent referral** for further investigations.
 - In all cases, both upper and lower GI investigations are recommended, unless the upper GI endoscopy detects gastric cancer or coeliac disease (in which case lower GI investigations are not necessary).
2. For people aged 60 years or older with IDA
3. For men of any age with unexplained iron deficiency anaemia and a haemoglobin level of 110g/L or below — **refer urgently** (within 2 weeks) for upper and lower GI investigations.
4. For women who are *not* menstruating, with unexplained iron deficiency anaemia and a haemoglobin level of 100g/L or below — **refer urgently** (within 2 weeks) for upper and lower gastrointestinal investigations
5. To exclude or act on upper or lower gastrointestinal red flag symptoms

Indications for routine referral (gastroenterology)

1. **People with unexplained IDA who do not fulfil the criteria for urgent referral will still require referral for upper and lower gastrointestinal investigation. The urgency of this will require clinical judgement, based on the Hb level and clinical findings. This may include:**
 - Male <60years and IDA Hb>110
 - Female, postmenopausal, <60years and IDA Hb >100
 - Female IDA Hb>100 and a strong family history of colorectal cancer
 - Male or female (post-menopausal) >50years with iron deficiency **without anaemia** (and no clear cause: not blood donor, vegetarian).
 - Male or female (without menorrhagia) <50 years with iron deficiency that has not responded to a formal trial of iron replacement
2. **Other situations in which specialist expertise is required include:**
 - If coeliac serology is positive — refer to gastroenterology.
 - If the person has profound anaemia with signs of heart failure — admit to hospital.
 - If a woman with menorrhagia has IDA that has failed to respond to treatment — refer to a gynaecologist (urgency of referral should reflect clinical judgement).
 - If a person is unable to tolerate, or not responding to, oral iron treatment — seek specialist advice.
 - If someone who has initially responded to iron treatment develops anaemia again without an obvious underlying cause — seek specialist advice regarding further assessment and investigation

Indications when NOT to refer (before trial of iron replacement)

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- Male: aged <50 years with iron deficiency without anaemia.
- Female: aged <50 years with iron deficiency without anaemia.

Other: discretionary

- Discuss with consultant gastroenterologist

NB Frail or elderly patients or those with significant co-morbidities need to be considered on a case by case basis. Risks and benefits of bowel prep and procedures need to be considered and the ability to mobilize on a table for endoscopic examinations. CT colonography (this does need bowel prep) or unprepared CT may be more appropriate than invasive colonoscopy.

Management²

History - ask about:

- Dietary (to identify poor iron intake)
- Drug history (e.g. **aspirin, NSAID use, SSRI, clopidogrel, steroids, anticoagulants**)
- History of overt bleeding or blood donation or other obvious blood loss (recent surgery?)
- Menstrual history (if appropriate).
- Directing gastrointestinal symptoms (including altered bowel habit, weight loss) or previous gastrectomy, esp if < 50 years
- Family history of blood disorders e.g. IDA (may indicate inherited problem with iron absorption), bleeding disorders, telangiectasia or thalassaemia
- Significant family history of GI cancer (one affected 1st degree relative <50 years old or 2 affected 1st degree relatives).
- If severe anaemia, ask about cardiac symptoms (e.g. angina, palpitations, oedema).

Examination

- Examine abdomen for masses, organomegaly, lymphadenopathy
- If there history of rectal bleeding and/or tenesmus, perform a rectal examination.
- Examine the cardiovascular system and chest for signs of heart failure.
- If heavy menstrual bleeding, see the CKS topic on [menorrhagia](#)
- Urinalysis (as 1% of IDA patients have a renal tract malignancy; haematuria needs further investigation if found)

Investigations

- Consider stool examination to detect parasites, if appropriate from the person's travel history.

- Consider testing stool for *H pylori*; (after 2 weeks without any proton pump inhibitors) if the person has already had normal upper and lower GI investigations for iron deficiency anaemia and the anaemia persists or recurs. If present consider eradication therapy.
- Confirm the [diagnosis](#) of iron deficiency anaemia with FBC, ferritin, CRP (and iron studies if in doubt)
NB Low MCV and MCH are sensitive indicators of iron deficiency if chronic disease is absent, if there is no coexistent B12 or folate deficiency or if there is no haemoglobinopathy e.g. thalassaemia (may need Hb electrophoresis in at risk ethnic groups to exclude).
- Coeliac screen - if positive, refer for further investigations. See the CKS topic on [coeliac disease](#).
NB Patients with treated coeliac disease who develop IDA should only have further GI investigation if >50, have GI symptoms or have significant history of GI cancer.

It is usually unnecessary to investigate these groups of people further prior to treatment:

- Otherwise healthy young people in whom the history clearly suggests a cause (for example regular blood donors).
- Menstruating young women with no history of gastrointestinal symptoms or family history of colorectal cancer.
- Pregnant women — investigations are not usually needed if anaemia develops during pregnancy unless the anaemia is severe, the history and examination suggest an alternative cause of iron deficiency (for example inflammatory bowel disease), or there is no response to iron supplementation.
- People who are terminally ill or unable to undergo invasive investigations — the appropriateness of investigating people with severe comorbidity (or, in some circumstances, advanced age), especially if management would not be influenced by the results, should be discussed with the person and their family and carers.
- People who refuse further investigations.

Treatment

- Manage underlying cause (eg treat menorrhagia or stop NSAID, if possible).
- Treat with: first line - **oral ferrous fumarate 322mg 1BD**; second line – **ferrous sulphate 200mg 1TDS** (only when ferrous fumarate not tolerated).
- If a liquid preparation is required then please use **ferrous fumarate liquid 140mg/5ml – Prophyllaxis 10ml once or twice a day**. Please see [latest BNF](#) for full dose information.
- If patient unable to tolerate (severe side effects to ferrous fumarate or ferrous sulphate) OR if oral treatment fails to have desired therapeutic effect i.e. Hb remains low despite oral therapy please discuss the option of **Ferinject®** with gastroenterologists. **Ferinject®** is given via the Medical Elective Suite at York Hospital.
- **Do not wait for investigations to be carried out before prescribing iron supplements**
- If diet low in iron, advise person to increase intake of iron-rich foods (for example meat, apricots, prunes, and raisins) and consider referral to a dietitian.

- Aim for replacement therapy to continue for 3 months until anaemia has resolved and ferritin >70
- Monitor to ensure that there is an adequate response to iron treatment - by monthly FBC then follow up with 3 monthly FBC and ferritin for 1 year after replacement therapy completed
- If iron deficiency persists or recurs within 3 months refer to gastroenterology (repeat OGD or video capsule endoscopy of small bowel or CT (this may reveal an alternative bleeding cause such as a gastro intestinal stromal tumour (GIST), angiodysplasia or Crohn's disease)

- If after formal evaluation < 2 years patient re-presents with IDA; treat with iron replacement
- If after formal evaluation > 2 years patient re-presents with IDA; refer to gastroenterology

Referral Information

Information to include in referral letter

- History and investigations performed in primary care (guided by the above with documentation of IDA)
- Relevant past medical/surgical history (e.g. history of IBD)
- Previous investigation for asymptomatic iron deficiency
- Current regular medication: NSAID, antiplatelet therapy, anticoagulants
- Blood donor and menopausal status
- Performance status
- Renal function
- Allergies
- Diet
- Family history of colorectal cancer

Investigations prior to referral

- FBC, U&E, creatinine, LFT, CRP, ferritin, coeliac screen, urine analysis

Patient information leaflets/ PDAs

- [Iron Deficiency Anaemia Patient Information Leaflet](#)

References

1. [British Society of Gastroenterology \(2013\). Guidelines for the management of iron deficiency.](#) Goddard et al Gut 2011; **60**:1309-1316. doi:10.1136/gut.2010.228874
2. [NICE CKS Iron deficiency anaemia February 2013](#)