

A summary of current evidence to support GPs managing iron deficiency and infusions.

At a glance

- Ferritin <30 µg/L is the most sensitive and specific marker for iron deficiency.
- In inflammation, CKD, or heart failure: ferritin <100 µg/L may still indicate deficiency.
- Transferrin saturation (TSAT) <16–20% supports diagnosis.
- Alternate-day oral iron dosing improves tolerance and adherence without reducing efficacy.
- IV iron (ferric carboxymaltose) is increasingly used in general practice due to access and effectiveness.
- Recheck iron studies at 4–6 weeks (ideally 6–8 weeks) to avoid misleading results.

Iron deficiency is common, but rarely simple. Accurate diagnosis, thoughtful investigation, and appropriate use of IV iron can significantly improve patient outcomes in general practice.

Key takeaways for GPs

1. Diagnose accurately

- Do not rely on lab “normal ranges” alone
- Interpret ferritin in clinical context (esp inflammation)
- Use TSAT + ferritin together where uncertainty exists

2. Always identify the cause

Do not stop at “iron deficiency”. Common causes:

- Blood loss: GI malignancy, heavy menstrual bleeding
- Reduced intake: poor diet, low red meat consumption
- Malabsorption: coeliac disease, bariatric surgery, PPI use
- Increased demand: pregnancy
- Chronic disease

3. Oral iron still has a role

- First-line in many patients
- Alternate-day or 3x weekly dosing improves tolerance
- Daily dosing can = nausea, constipation, poor compliance

4. When to consider IV iron

Use when:

- Oral iron is not tolerated or ineffective
- Malabsorption is present
- Rapid correction required (symptomatic patients)
- Ongoing losses exceed oral replacement

Ferric carboxymaltose (common GP option):

- Typically 1000 mg single dose sufficient
- Rapid improvement:
 - Hb rise within ~8 weeks
 - Symptom improvement often earlier

5. Iron infusion essentials (GP setting)

Before:

- Confirm diagnosis and indication
- Obtain written informed consent (include staining risk)
- Exclude contraindications

During:

- Slow infusion (often ~20 minutes)
- Monitor observations regularly (baseline + ~10-minutely)

After:

- Observe for 30 minutes
- Watch for hypersensitivity or vasovagal episodes

6. Follow-up matters

- Recheck Hb and ferritin at 6–8 weeks
- Earlier testing may mislead due to transient elevation
- If inadequate response:
 - Reassess diagnosis
 - Look for ongoing blood loss or missed cause

Practice tips

- Do not miss malignancy → Even with an obvious cause, consider FOBT, bowel screening, urinalysis (microscopic haematuria)
- Craving ice (pagophagia) can be a subtle clue to iron deficiency
- One infusion is usually enough → Avoid over-treating unless clearly indicated
- Space repeat infusions → Monitor for hypophosphataemia in high-risk patients
- Managing the cause is critical → Iron replacement alone is not definitive treatment

Common pitfalls

- Treating iron deficiency without finding the cause
- Checking iron studies too early post-infusion
- Over-reliance on “normal ferritin” in inflammatory states
- Poor adherence due to daily oral dosing
- Missing occult blood loss (GI or GU)

Simple clinical pathway

1. Confirm iron deficiency à Ferritin ± TSAT
2. Identify cause à Intake, loss, absorption
3. Trial oral iron (if appropriate)
4. Review at 4–6 weeks
5. Escalate to IV iron if needed
6. Recheck at 6–8 weeks
7. Reassess cause if response inadequate

Where to next

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