NHS
Greater Glasgow and Clyde

CLINICAL GUIDELINE

Iron Deficiency Anaemia in Adults: Oral and Intravenous Iron Therapy Treatment

A guideline is intended to assist healthcare professionals in the choice of disease-specific treatments.

Clinical judgement should be exercised on the applicability of any guideline, influenced by individual patient characteristics. Clinicians should be mindful of the potential for harmful polypharmacy and increased susceptibility to adverse drug reactions in patients with multiple morbidities or frailty.

If, after discussion with the patient or carer, there are good reasons for not following a guideline, it is good practice to record these and communicate them to others involved in the care of the patient.

Version Number:	3
Does this version include changes to clinical advice:	Yes
Date Approved:	11th May 2022
Date of Next Review:	1st May 2025
Lead Author:	Laura Maguire
Approval Group:	Medicines Utilisation Subcommittee of ADTC

Important Note:

The Intranet version of this document is the only version that is maintained.
Any printed copies should therefore be viewed as 'Uncontrolled' and as such, may not necessarily contain the latest updates and amendments.

Key Messages in the Management of IDA

Oral iron is the 1st line treatment of choice

The clinical benefit of treatment should be considered

Determine underlying cause

Investigations to determine the underlying cause should be considered in parallel with treatment

Intravenous iron should be reserved as a second line treatment option

For the vast majority of patients treatment with oral iron is appropriate

Scope of guideline

This guideline focuses on the diagnosis and treatment of iron deficiency anaemia (IDA) in adult patients (16 years and over) in acute and primary care settings. The treatment of IDA is covered to include the place of oral and intravenous (IV) iron replacement therapy.

For the purpose of the guideline the following clinical situations are not covered:

- pregnancy,
- postpartum anaemia,
- surgery/trauma,
- paediatrics (<16 years),
- patients with chronic kidney disease (CKD) stages 4-5.

Diagnostic tests used to establish IDA

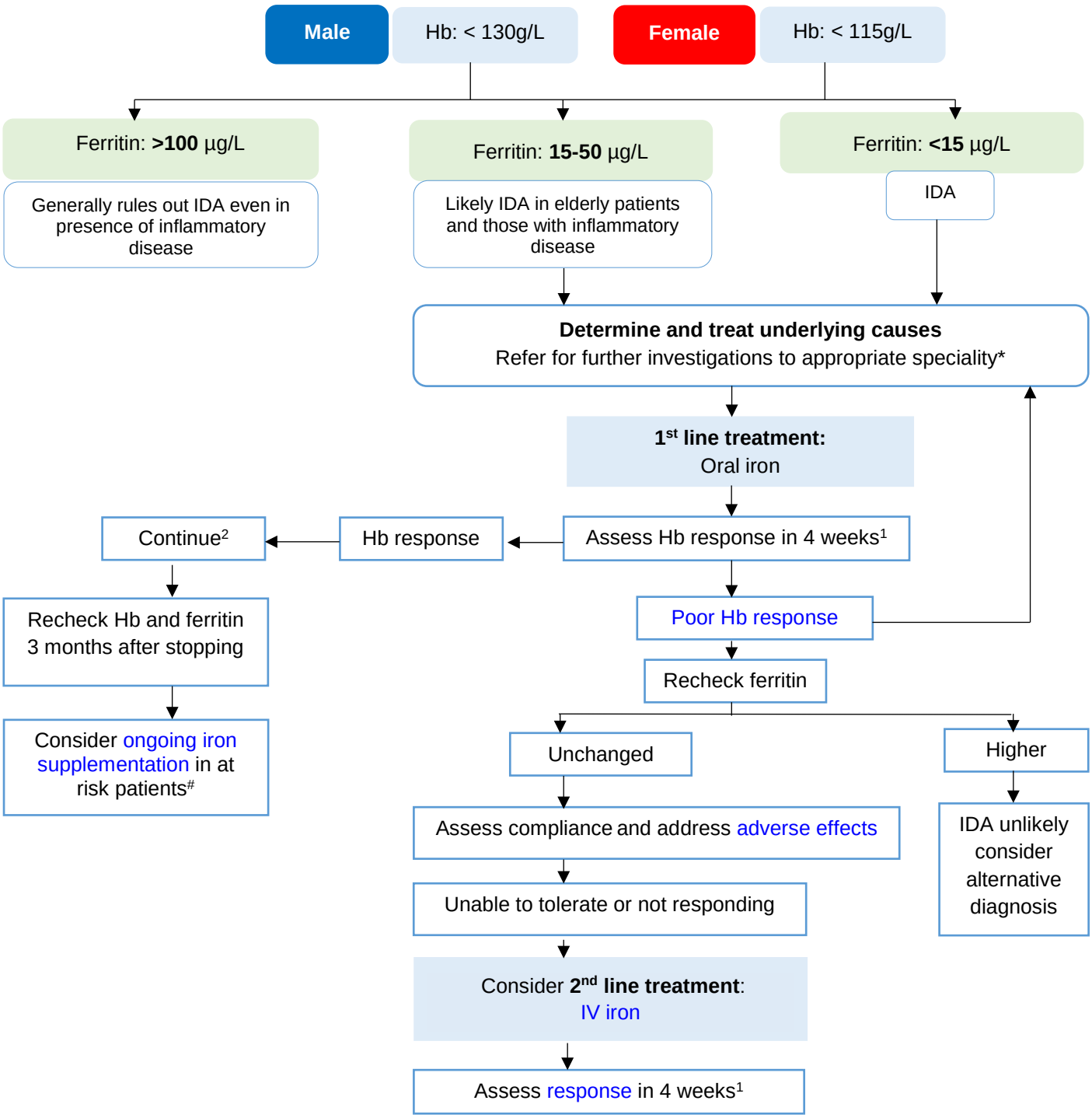
See diagnostic and treatment algorithm in the management of IDA.

If haemoglobin (Hb) is low, blood iron studies can identify if this is caused by iron deficiency. Serum ferritin (SF) is the most useful test in confirming the diagnosis of IDA. The test can be difficult to interpret if infection or inflammation is also present, as levels can be high even in the presence of iron deficiency. If SF results are equivocal, practitioners should consider monitoring the haemoglobin (Hb) concentration in response to a trial of oral iron.

Serum iron, transferrin levels and transferrin saturation (TSAT) are labile measurements and not reliable indicators of low iron stores. Their role should be limited to investigation of high SF values and possible iron overload.

For further information on the interpretation of iron studies, please refer to the Medicines Update blog article, *Diagnosis of IDA – Iron Studies* (available at www.ggcmedicines.org.uk).

Diagnostic and Treatment Algorithm for IDA



Abbreviations: Hb, haemoglobin; IDA, iron deficiency anaemia

* Refer to British Society of Gastroenterology guideline for the management of IDA in adults for further information (available at www.bsg.org.uk)

[1] Hb should rise by at least 20g/L over 4 weeks.

[2] When Hb is in desired range, continue treatment for a further 3 months to replenish iron stores.

[#] Recurring anaemia (such as in elderly person) and further investigations are not indicated or appropriate**,** an iron-poor diet (e.g. vegans)**,** malabsorption (e.g. coeliac disease)**,** menorrhagia**,** had a gastrectomy.

Treatment of IDA

Treatment with iron replacement therapy (IRT) should be considered for patients with clinically relevant IDA in whom the clinical benefit of treatment outweighs any risks. IRT can begin once deficiency is confirmed, but the underlying cause of the deficiency should be sought and treated. IRT should not be deferred while awaiting investigations for IDA unless colonoscopy is imminent.

1st line treatment choice	Oral iron	
2nd line treatment choice	IV iron	**Hospital setting only** *reserved for patients who meet inclusion criteria*

Dietary advice

Patients should be educated on their dietary iron intake, including details of iron rich foods and factors which may inhibit or promote iron absorption. This should be consolidated by the provision of an information leaflet (see example).

Oral iron therapy

Product of choice

Traditional oral iron salts (ferrous sulphate, ferrous fumarate and ferrous gluconate) are inexpensive, safe and readily available and remain the standard therapy for IDA. Hb regeneration is little affected by the type of salt used provided sufficient iron is given, and in most patients the speed of response is not critical. Choice of preparation is thus usually decided by the incidence of side effects and cost. See table 1 below for elemental iron content of oral iron preparations.

Table 1: Elemental iron content of oral iron preparations

Iron salt	Formulation	Strength	Elemental iron content
Ferrous sulphate	tablet	200mg	65mg
	oral drops	125mg/ml	25mg/ml
Ferrous fumarate	tablet	210mg	68mg
	tablet	322mg	100mg*
	capsules	305mg	100mg*
	oral solution	140mg/5ml	45mg/5ml
Ferrous gluconate	tablet	300mg	35mg
Sodium feredetate	oral solution	190mg/5ml	27.5mg/5ml

Note: refer to the NHS GGC formulary at www.ggcmedicines.org.uk for preferred list choices
*Preparations containing 100mg of elemental iron can cause significant side effects and use should be discouraged.

Dosage

The optimal dosage of oral IRT for adults with IDA are not clearly defined. Traditionally oral iron salts were taken as a split dose, two or three times a day (100-200mg elemental iron daily). More recent data suggest that lower doses and more infrequent administration may be just as effective, while probably associated with lower rates of adverse effects. Based on the available literature, a once daily dose of 50–100 mg of elemental iron (e.g. ferrous sulphate 200mg once a day or ferrous fumarate 210mg once a day) taken in the fasting state may be the best compromise option for initial treatment.

Monitoring response

Early monitoring should detect those patients not responding to or intolerant to oral iron. Hb levels should be rechecked within the first 4 weeks of iron supplement treatment to assess the person's response. The Hb concentration should rise by at least 20g/L over 3–4 weeks.

After the restoration of Hb and iron stores with IRT, the blood count should be monitored periodically (e.g. 3-monthly for 12 months and then 6-monthly for 2-3 years) to detect recurrent IDA.

Inadequate response
Intolerance and/or ineffectiveness to oral IRT should be managed promptly and appropriately. Failure to respond may indicate:

- Continued blood loss – investigate and treat underlying cause(s).
- Wrong diagnosis – recheck ferritin and reassess.
- Non-compliance – assess and address adverse effects.
- Malabsorption.

Other reasons for poor response include; systemic disease, bone marrow pathology and haemolysis.

Adverse effects
Dose-related adverse effects (gastrointestinal disturbance) from taking an iron supplement are commonly experienced and a common cause of non-compliance with treatment. These irritant adverse effects are usually related to the amount of elemental iron taken rather than the type of preparation. Patients should be advised that they may experience adverse effects but these usually settle down with time – the importance of compliance with treatment should be stressed.

Patients should be advised if they do experience gastrointestinal adverse effects, discomfort can by minimised by taking the iron supplements with or after food (however this can reduce bioavailability by up to 75%). If this is not tolerated, consider reducing the dose to one tablet on alternate days, or trying an alternative salt/formulation with a lower content of elemental iron (see table 1). If these measures fail, they should return to discuss other treatment options.

Drug interactions
Iron salts are not well absorbed orally, and food may further impair their absorption. The absorption is reduced if taken concurrently with: zinc or magnesium salts (e.g. in antacids), calcium (e.g. in milk and dairy products), tannins (e.g. in tea, coffee and cocoa), phytates (present in cereal grains, legumes, nuts and seeds).

Oral iron supplements can reduce the absorption of some drugs if taken concurrently (including tetracyclines, quinolones and bisphosphonates) reducing bioavailability and clinical effect. A suitable interval to separate administration is advised with some medicines. For further details see individual summary of product characteristics (SPCs) (available from www.medicines.org.uk).

Treatment duration
After normalisation of the Hb, oral iron needs to be continued to replenish the iron stores. Traditionally it has been recommended that oral iron is continued for 2–3 months to do this. However, the duration required and indeed the appropriate measure of true iron repletion are both unclear. In healthy, almost iron-replete subjects, 2 months of continued iron may be sufficient. In patients with chronic disease, continuing blood loss, impaired absorption or gastrointestinal (GI) inflammatory disease (where iron is lost from the GI mucosa), it is likely that a longer period would be required.

Ongoing iron supplementation
Consider an ongoing prophylactic dose of oral iron (see BNF) in patients who are at particular risk of IDA.
This may be beneficial in patients who have:

- Recurring anaemia (such as in elderly person) and further investigations are not indicated or appropriate**.**
- An iron-poor diet (e.g. vegans)**.**
- Malabsorption (e.g. coeliac disease)**.**
- Menorrhagia**.**
- Had a gastrectomy.

Intravenous iron therapy

IV iron therapy should only be considered as a second line treatment option in a hospital setting. It does not produce a faster Hb response than oral iron provided that the oral iron preparation is taken reliably and is absorbed adequately. IV iron therapy is rarely indicated, may produce severe adverse effects, and should be reserved for patients who meet the inclusion criteria defined below.

IV iron therapy should be initiated by a consultant, specialist trainee or nominated non-medical prescribers (NMPs). IV iron should **not** be administered out of hours or when adequate supervision is unavailable.

Inclusion criteria

IV iron therapy is considered for the treatment of IDA in adults in the following situations:

- Genuine intolerance to oral iron preparations. Iron preparations with a low content of elemental iron must be tried (with food) before acceptance of genuine intolerance to oral iron.
- Severe IDA and concern regarding the patient's ability to comply with oral iron treatment.
- Patients with clinically active inflammatory bowel disease (IBD), with previous intolerance to oral iron, with Hb below 100g/L, and in patients who need erythropoiesis-stimulating agents.[1]
- Patients with heart failure (HF) with reduced ejection fraction, New York Heart Association (NYHA) class III with an left ventricular ejection fraction (LVEF) ≤45%, or NYHA class II, LVEF ≤40%, who have a Hb level of 95 to 135g/L and iron deficiency (defined as ferritin <100 micrograms/L or ferritin <300micrograms/L if TSAT<20%.[2]

Exclusion criteria

Contraindications and cautions to Ferinject® (ferric carboxymaltose) and Monofer® (ferric derisomaltose) are summarised in table 2 and table 3 below. For further details see individual SPCs (available from www.medicines.org.uk).

Table 2: Contraindications to IV iron

	Ferinject®	Monofer®
Hypersensitivity to the active substance, the product itself or any excipients in the product	✕	✕
Serious hypersensitivity to other IV iron products	✕	✕
Non-iron deficiency anaemia	✕	✕
Iron overload or disturbance in utilisation of iron	✕	✕
1st trimester of pregnancy	✕	✕
Decompensated liver disease		✕

Table 3: Cautions to IV iron

	Ferinject®	Monofer®
Hypersensitivity reactions[1]	✕	✕
	Risk is enhanced in patients with: • Known allergies (including drug allergies) • Severe asthma • Eczema • Atopic allergy • Immune of inflammatory conditions	
Hepatic impairment	✕	✕
Acute or chronic infection	✕	✕
Paravenous leakage	✕	✕
2nd and 3rd trimester of pregnancy	✕	✕
Hypophosphataemic osteomalacia[2]	✕	

MHRA drug safety updates [1] IV iron and serious hypersensitivity reactions: strengthened recommendations (Aug 2013)
[2] Ferric carboxymaltose (Ferinject®): risk of symptomatic hypophosphataemia leading to osteomalacia and fractures (Nov 2020)

[1] Dignass AU et al., the European Crohn's and Colitis Organisation [ECCO], European Consensus on the Diagnosis and Management of Iron Deficiency and Anaemia in Inflammatory Bowel Diseases, *Journal of Crohn's and Colitis*, 9 (3), March 2015, 211-222

[2] Scottish Intercollegiate Guidelines Network. SIGN 147. Management of chronic heart failure. March 2016.

Product of choice

Ferinject® (ferric carboxymaltose) and Monofer® (ferric derisomaltose) are both included on the GGC formulary for the treatment of IDA. Use is restricted to administration by IV infusion. Table 4 below can be used to help guide the product selection based on patient characteristics. Alternatively, consider prescribing the most familiar product within your service area.

Table 4: Patient characteristics to guide IV iron product of choice

Age:	16 - 18 years	**Ferinject®** [1]
Weight:	35 - 49kg	**Monofer®** [2]
Weight: Hb:	75 - 99kg 100 - 130g/L	**Monofer®** [2]
Weight:	>100kg	**Monofer®** [2]
Risk factors for hypophosphataemia* requiring multiple high-dose infusions / long-term treatment		**Monofer®** [3]

Reason:
1 Licensed for use in >14 years.
2 Reduced number of weekly infusion(s) required to administer as total dose infusion.
3 The risk of persistent hypophosphatemia and osteomalacia may be higher with Ferinject® than with other IV iron formulations (see MHRA drug safety update Ferric carboxymaltose (Ferinject®): risk of symptomatic hypophosphataemia leading to osteomalacia and fractures)
*vitamin D deficiency, calcium and phosphate malabsorption, secondary hyperparathyroidism, inflammatory bowel disease and osteoporosis.

How to prescribe and administer IV iron

For further information on how to prescribe and administer the IV iron preparations as infusions:

Ferinject® (ferric carboxymaltose)	see here
Monofer® (ferric derisomaltose)	see here

Interaction with oral iron preparations

Combined treatment with oral and IV iron may lead to the appearance of highly toxic non transferrin bound iron. It is recommended that oral iron preparations are discontinued at **least 48 hours** prior to IV iron infusions.

The need for oral iron therapy should be reviewed following IV iron replacement. Generally it should not be required following IV iron replacement. If an ongoing prophylactic dose is deemed necessary, oral iron should not be started for at **least 5 days** after the last IV iron infusion.

Adverse effects

Refer to individual product SPCs for full details (available from www.medicines.org.uk). All serious suspected adverse drug reactions should be reported to the Medicines and Healthcare products Regulatory Agency (MHRA) via the Yellow Card Scheme. An electronic form is available at https://yellowcard.mhra.gov.uk/.

Monofer® (ferric derisomaltose) is a black triangle drug ▼ and subject to additional monitoring, **all** suspected adverse reactions (including those considered not to be serious) should be reported.

Monitoring during infusion

Hypersensitivity reactions

IV iron preparations can cause serious hypersensitivity reactions, including life-threatening and fatal anaphylactic and anaphylactoid reactions (see MHRA Drug Safety Update IV iron and serious hypersensitivity reactions: strengthened recommendations). These reactions can occur even when a previous administration has been tolerated.

The steps outlined in the administration checklists (Ferinject® and Monofer®) should be taken to monitor patients during and for at least 30 minutes after every administration.

If hypersensitivity reactions / signs of intolerance occur during administration, the treatment should be stopped immediately and appropriate management initiated. A guide to the management of hypersensitivity reactions occurring during administration of IV iron can be found here.

Extravasation
Paravenous leakage at the infusion site may lead to irritation and potentially **permanent** brown discolouration of the skin. Patients should be informed about the possibility of discolouration and advised to report any signs of irritation or pain at the infusion site immediately (see patient information leaflet).

The most effective safeguard is to visually inspect the infusion site regularly. The steps outlined in the administration checklists (Ferinject® and Monofer®) should be taken to monitor the infusion site during and for at least 30 minutes following administration.

Paravenous leakage should be suspected if one or more of the following is observed:

- The infusion is not flowing freely or has stopped.
- Swelling, discomfort, burning or pain occurs at the infusion site.

In case of suspected paravenous leakage, treatment requires prompt attention as outlined in table 5 below.

Table 5: A guide to management of extravasation reactions occurring during administration of IV iron	
	Initial when complete
STOP the infusion immediately and disconnect the drip, **do not** remove the cannula	
Inform medical staff immediately	
Aspirate the extravasated drug by connecting a clean syringe to the cannula and drawing back	
Mark the extravasation area with a pen and remove the cannula	
Elevate the limb (if possible)	
Cool the area for 24-48 hours and closely monitor the skin and underlying tissues for changes.	
Consider referral to plastic surgery team	
Clearly document the management plan in the patient's medical records	
Complete a clinical incident form	

Communication of treatment
Treatment with IV iron should be clearly communicated with the patient's GP and other healthcare professionals. This could be via a discharge letter or outpatient clinic letter. It should include details of the treatment received and clearly state arrangements in place for follow up blood monitoring.

Monitoring response
It is good practice to recheck Hb and ferritin levels to assess response to IV iron treatment. These should be assessed no earlier than 4 weeks following treatment. Hb levels should rise by at least 20g/L over 4 weeks.

It is the responsibility of the initiating prescriber to ensure arrangements are in place for follow up blood monitoring. This may be arranged via an outpatient clinic or asking the GP to complete. If to be carried out by the GP this must be clearly communicated. The patient should be made aware of follow up plans.

Prescribing & Administration Information for Ferinject® (ferric carboxymaltose)

Patient name: Date of birth: CHI no.: *Affix patient label*	Drug Allergies / Sensitivities None Known ❑ Yes ❑ Details: .....

Step 1: Calculate WEEKLY dose for intravenous infusion

Patient weight* (kg): ..... *Use actual body weight	**Hb (g/L):** ..... on ..../..../....

Ferinject® doses for range of Hb and body weight

Weight (kg)*	Hb < 100g/L		Hb ≥ 100g/L and < 130g/L	
25-34	Week 1	**500mg**	Week 1	**500mg**
35-37	Week 1	**500mg**	Week 1	**500mg**
	Week 2	**500mg**	Week 2	**500mg**
	Week 3	**500mg**		
38-49	Week 1	**750mg**	Week 1	**500mg**
	Week 2	**750mg**	Week 2	**500mg**
50-69	Week 1	**1,000mg**	Week 1	**1,000mg**
	Week 2	**500mg**		
≥70	Week 1	**1,000mg**	Week 1	**1,000mg**
	Week 2	**1,000mg**	Week 2	**500mg**

Step 2: Prescribe as a ONCE ONLY dose on HEPMA

Step 3: Prescribe on infusion chart

Ferinject® (ferric carboxymaltose)

Dose	500mg	750mg	1,000mg	1,500mg	2,000mg
Volume (50mg/ml vial)	10ml	15ml	20ml	Dose must be split. Maximum weekly dose = 20mg/kg body weight up to a maximum of 1,000mg of iron.	
Infusion fluid	100ml sodium chloride 0.9%				
Infusion rate	400ml/hour over 15 minutes				
	Fluid restricted: 200ml/hour over 30 minutes				

Complications

Hypersensitivity reactions	Extravasation
Can be life-threatening Caution is needed with every dose	Can cause PERMANENT brown skin staining

Step 4: Complete checklist for administration

Pre-infusion	*Initial when complete*
Oral iron stopped *at least 48 hours* prior to infusion	
Patient received information leaflet	
Patient aware of risks and benefits and happy to proceed with treatment	
Patient aware to notify staff immediately if they: • feel unwell • experience pain / discomfort at PVC site	
Facilities for cardio-pulmonary resuscitation available	
Adequate supervision available. **NOT** for out of hours administration	

During infusion			
STOP immediately if: Symptoms of an allergic reaction. Infusion not flowing freely. Swelling / discomfort / burning / pain.	Baseline	Observations (NEWS)	
		PVC check*	
		Flush the PVC#	
	+ 15 mins	Observations (NEWS)	
		PVC check*	
	30 mins post infusion	Observations (NEWS)	
		PVC check*	
		Flush the PVC#	
		Remove PVC	

*as per PVC care plan #with a minimum of 5ml of 0.9% sodium chloride (using a 10ml syringe) administer using a push pause technique

Post-infusion	
Arrange appointment for subsequent infusion(s) (if required). Minimum of 7 days between infusions	
Ensure follow up plan in place to recheck Hb and ferritin after 1 month	
Document details of treatment on clinical portal via discharge letter / outpatient clinic letter	
Consider monitoring phosphate levels in patients at risk for hypophosphataemia who require long-term treatment / multiple high-dose infusions	

Prescribing & Administration Information for Monofer® (ferric derisomaltose)

Patient name: Date of birth: CHI no.: *Affix patient label*	Drug Allergies / Sensitivities None Known ❑ Yes ❑ Details: .....

Step 1: Calculate WEEKLY dose for intravenous infusion

Patient weight* (kg): ..... *Use actual body weight	**Hb (g/L):** ..... on ..... / ..... / .....

Monofer® doses for range of Hb and body weight

Weight (kg)*	Hb < 100g/L		Hb ≥ 100g/L and < 130g/L	
25-49	Week 1	**500mg**	Week 1	**500mg**
50-69	Week 1	**1,000mg**	Week 1	**1,000mg**
	Week 2	**500mg**		
70-74	Week 1	**1,000mg**	Week 1	**1,000mg**
	Week 2	**1,000mg**	Week 2	**500mg**
75-99	Week 1	**1,500mg**	Week 1	**1,500mg**
	Week 2	**500mg**		
≥100	Week 1	**2,000mg**	Week 1	**1,500mg**

Dependent on clinical judgement the 2nd administration could await further laboratory tests

Step 2: Prescribe as a ONCE ONLY dose on HEPMA

Step 3: Prescribe on infusion chart

Monofer® (ferric derisomaltose)

Dose	500mg	1,000mg	1,500mg	2,000mg
Volume (100mg/ml vial)	5ml	10ml	15ml	20ml
Infusion fluid	100ml sodium chloride 0.9%			
Infusion rate	200 ml/hour over 30 minutes			

Complications

Hypersensitivity reactions	Extravasation
Can be life-threatening Caution is needed with every dose	Can cause PERMANENT brown skin staining

Step 4: Complete checklist for administration

Pre-infusion	Initial when complete
Oral iron stopped *at least 48 hours* prior to infusion	
Patient received information leaflet	
Patient aware of risks and benefits and happy to proceed with treatment	
Patient aware to notify staff immediately if they: • feel unwell • experience pain / discomfort at PVC site	
Facilities for cardio-pulmonary resuscitation available	
Adequate supervision available **NOT** for out of hours administration	

During infusion			
STOP infusion immediately if: Symptoms of an allergic reaction. Infusion is not flowing freely. Swelling / discomfort / burning / pain.	Baseline	Observations (NEWS)	
		PVC check*	
		Flush the PVC#	
	+ 15 mins	Observations (NEWS)	
		PVC check*	
	30 mins post infusion	Observations (NEWS)	
		PVC check*	
		Flush the PVC#	
		Remove PVC	

*as per PVC care plan #with a minimum of 5ml of 0.9% sodium chloride (using a 10ml syringe) administer using a push pause technique

Post-infusion	
Arrange appointment for subsequent infusion(s) (if required). Minimum of 7 days between infusions	
Ensure follow up plan in place to recheck Hb and ferritin after 1 month	
Document details of treatment on clinical portal via discharge letter / outpatient clinic letter	

Iron Infusions

Patient information leaflet

Please read this leaflet carefully and discuss any questions you may have with your doctor or nurse.

Why am I being treated with this medicine?

Your blood test results show that the amount of iron you have in your blood is low. The most common way to treat this is to take iron by mouth as a tablet or liquid. This works well for most people and is usually tried first. However, some people may need iron to be given straight into the body through a vein. This is called an iron infusion. It might be needed if you:

- are not able to take iron tablets or liquid
- are not responding to iron tablets or liquid or not absorbing them
- if you have chronic heart failure.

Why is iron important?

Iron is an essential nutrient that your body needs to make red blood cells, which carry oxygen around your body. If you do not have enough iron, you can become anaemic. This can cause tiredness, low energy levels, low mood, feeling faint and breathlessness.

Do I still need to take iron tablets/liquid?

If you are taking iron tablets or liquid these should be stopped before you receive the infusion. They are usually not needed after the treatment.

What does the infusion involve?

The treatment takes place in a hospital. A thin plastic tube called a cannula is placed in your vein and attached to an infusion that slowly delivers a liquid solution containing iron into the body.

Will I feel any pain?

You may feel a slight sting when the cannula is inserted to give the infusion. You should feel no pain during the iron infusion. If you do feel any pain, you should let nursing staff know immediately.

How long will it take?

It can take up to 60 minutes to complete the infusion. You will be monitored by nursing staff closely before, during and for 30 minutes following the infusion.

How often will I need an infusion?

Sometimes two iron infusions (given at least one week apart) are needed to fully top up your iron stores.

What are the most likely side effects?

Generally when side effects do occur, they are mild and settle down on their own. The most common side effects are temporary and include:

- headache, feeling sick or vomiting, muscle or joint pain
- changes in taste (e.g. metallic)
- changes to blood pressure or pulse.

What are the risks?

Rarely, you may experience a serious allergic reaction. If this happens you may experience some or all of the following symptoms:

- feeling dizzy
- fast pulse
- feeling light headed or faint due to a low blood pressure
- swelling in your face, lips, tongue, throat or body
- difficulty in breathing
- chest pain
- itchy skin, a rash or skin redness.

Skin staining (brown discolouration) may occur due to leakage of iron into the tissues around the cannula site. This is not common but the stain can be **long-lasting** or **permanent.**

You should tell your doctor or nurse immediately if you:

- **Feel unwell before, during or after the treatment.**
- **Experience any discomfort, burning, redness or swelling at the cannula site.**

What happens after the infusion?

Unless you have an unexpected reaction, you will be able to drive home and do your normal activities. Before leaving ensure that you have:

- The number to contact if you have any worries or questions
- The dates for any follow up tests and / or appointments.

Sometimes side effects can start one to two days after the infusion. These will generally settle down without treatment over the next few days. If you are worried, or the side effects are interfering with your daily activities, please contact your GP for advice. If you have chest pain, difficulty breathing, dizziness or neck or mouth swelling CALL AN AMBULANCE (999).

Who can I talk to if I have any questions?

If you have any questions regarding the information in this leaflet, or your treatment with an iron infusion, please discuss these with your doctor or nurse.

If you require this information in an accessible format, such as large print or braille or in a community language, please use the contact details on your patient information leaflet or letter.

إذا كنتم تحتاجون إلى هذه المعلومات في تنسيقٍ يسهل الاطلاع عليه، كأن تُطبع بأحرف كبيرة أو تُكتب بطريقة بريل أو تُترجم إلى إحدى اللغات المحلية، يُرجى استخدام بيانات الاتصال المذكورة في نشرة المعلومات المريض أو الخطاب المُرسل لكم.

如果您需要便于使用的信息版本，例如大号字体版本或盲文版或社区语言版本，请使用您的患者信息单或信函上的联系信息索取相应版本。

اگر این اطلاعات را در قالبی مناسب‌تر همچون چاپ درشت یا خط بریل یا زبانی خاص نیاز دارید، لطفاً با استفاده از اطلاعات تماس درج شده بر روی بروشور یا نامه بیمار خود، با ما تماس بگیرید.

Aby uzyskać te informacje w przystępnym formacie, np. w druku powiększonym, alfabecie Braille'a lub w języku wspólnoty, prosimy o kontakt pod adresem podanym w liście lub na ulotce informacyjnej dla pacjenta.

Dacă aveți nevoie de aceste informații într-un format accesibil, cum ar fi caractere mărite, scriere braille sau într-o limbă comunitară, vă rugăm să utilizați datele de contact din scrisoarea sau prospectul informativ pentru pacient.

اگر آپ کو یہ معلومات کسی قابل رسائی فارمیٹ، جیسے بڑے حروف یا بریل یا کسی کمیونٹی زبان میں درکار ہے، تو براہ کرم آپ اپنے مریض سے متعلق معلوماتی پرچے یا خط پر دی گئی رابطے کی تفصیلات استعمال کریں۔