Ballarat Health Services

DRUG GUIDELINE

IRON – Intravenous Infusions

SCOPE (Area): **FOR USE IN:** General Wards (Acute and Subacute), ED, CCU, ICU, MDU, CDU, GH-B at Home, Maternity.
EXCLUSIONS: Paediatrics (seek Paediatrician advice), Dialysis
SCOPE (Staff): Medical, Nursing and Pharmacy

Note: This guideline does not cover the use of iron infusions in:
- **Dialysis – see Drugs used in the Dialysis Unit (CPP0542).**
- **Paediatrics – see Paediatric Iron Deficiency Victorian Paediatric Clinical Network (CPG0303) and contact Pharmacy for more information.**

CONTENTS

BRAND NAMES

Iron polymaltose: Ferrosig®. Also known as iron polymaltose complex and iron polymaltose compound.
Ferric carboxymaltose: Ferinject®.
Ferric derisomaltose: Monofer®. Previously known as iron isomaltoside.

Iron sucrose (Venofer®) is not included in this guideline and is only licensed for use in chronic haemodialysis patients. Other indications require Individual Patient Usage approval, see Pharmacy.

PHARMACOLOGY AND PHARMACOKINETICS

Iron is an essential element required for the formation of haemoglobin (Hb) and myoglobin. Intravenous (IV) iron results in a more rapid initial rise in Hb, however overall rise in Hb is similar at 12 weeks with either oral or IV iron replacement.

Table 1: Comparison of oral and IV iron supplementation*

	Oral	Intravenous
Onset of action (reticulocyte peak)	5 to 10 days	5 to 10 days
Onset of action (change in haemoglobin)	2 to 4 weeks	1 to 5 weeks
Normalisation of haemoglobin	8 to 12 weeks	6 to 8 weeks

*Values are an estimate based on patient without ongoing losses and/or dysfunction in iron absorption or utilisation. Adapted from Barwon Health Iron Management Guideline 2020.

INDICATIONS

In general, oral iron supplementation is considered the first line option, IV iron is reserved for the treatment of **iron deficiency** (as determined by iron studies no older than 4 months), when **oral iron is ineffective or inappropriate** (see Box 1 below).

Iron deficiency is defined as:

- Ferritin less than 30 microg/L (iron deficiency)
- Ferritin 30 microg/L to less than 100 microg/L (possible iron deficiency in the presence of inflammation, chronic disease or high C-reactive protein)
- Ferritin greater than 100 microg/L and transferrin saturation less than 20% (functional iron deficiency). See also Precautions: Elevated ferritin.

Box 1: Examples where oral iron is ineffective or inappropriate (IV iron preferred)

Heart failure with reduced ejection fraction (HFrEF) or LVEF less than 50% AND
- Ferritin less than 100 microg/L; OR
- Ferritin 100 to 300 microg/L and transferrin saturation less than 20%

Post-operative iron deficiency, defined as ferritin less than 100 microg/L or ferritin 100 to 300 microg/L and transferrin saturation less than 20%

Chronic kidney disease (for dialysis patients, refer to CPP0542 Drugs Used in the Dialysis Unit).

Malabsorption (e.g. gastrectomy, gastric bypass, coeliac disease)

Iron deficiency secondary to inflammatory bowel disease (e.g. Crohn's disease, ulcerative colitis)

Symptomatic iron deficiency anaemia

Iron deficiency anaemia associated with malignancy

Ongoing blood loss where oral iron is unable to meet needs (eg. heavy menstrual bleeding)

Unable to tolerate oral iron

Failed to respond to oral iron despite:
- Adherence to therapy for 6 to 12 weeks; AND
- Use of an iron formulation with adequate iron content* providing 100 to 210 mg elemental iron daily, OR at least 60 mg on alternate days

* Many iron preparations contain a subtherapeutic dose of iron, check dose with National Blood Authority or Pharmacy if unsure (https://www.blood.gov.au/iron-product-choice-and-dose-calculation-guide-adults)

CONTRAINDICATIONS

- Severe allergic reaction to the selected iron product or any of its excipients.
- Anaemia not caused by simple iron deficiency.
- Iron overload (eg. recurrent iron infusion, haemochromatosis, haemosiderosis).

PRECAUTIONS

- **Previous reaction to IV iron** – see Choice of Iron Formulation section on page 5. Generally, if patient has history of a mild to moderate reaction, an alternative iron product can be given with prescriber's approval. Seek specialist advice (treating physician or Haematology) if patient has had a severe reaction to any iron infusion.
- **Acute or chronic infection** – avoid during active systemic infection/bacteraemia. Many infectious agents thrive on iron, although there is a lack of evidence addressing this issue.
- **Elevated ferritin** – may indicate an underlying inflammatory process or malignancy with ineffective erythropoiesis – iron may not be effective in these patients – seek specialist advice from Haematology if unsure.
- **Significant hepatic dysfunction** (e.g. active hepatitis or decompensated cirrhosis) – discuss with gastroenterologist.
- **Pregnancy** – avoid in first trimester and seek specialist advice before prescribing (see below).
- **Inadequate work up for cause of iron deficiency** – cause of iron deficiency must be identified and addressed alongside iron replacement.
- **Transfusion-dependent anaemia or recent massive transfusion** – risk of iron overload; each unit of packed red blood cells (PRBC) contains approximately 200 mg elemental iron.
- **History of multiple allergies –** may be at higher risk of reaction to iron infusion.
- **Patients at risk of serious sequelae due to hypophosphataemia –** avoid ferric carboxymaltose.
- **Inflammatory arthritis (e.g. rheumatoid arthritis**) – may be at greater risk of exacerbation or reactivation of joint pain.
- **Recurrent need for infusion –** should be investigated due to increased risk of iron overload.

PREGNANCY AND BREASTFEEDING

For Maternity patients, seek specialist advice & refer to the appendix in CPG0331 Management of Iron Deficiency & Anaemia in Maternity – Hb Assessment & Optimisation in Maternity flow charts. The flow charts must be followed to prescribe IV iron in pregnancy.

Pregnancy: Oral iron is first-line therapy in ALL trimesters. Avoid IV iron in the first trimester. **Ferric carboxymaltose** (category B3): preferred IV iron in pregnancy, other IV iron formulations must be approved by specialist. **Iron polymaltose** (category A): safe to use if approved by specialist, however maximum dose is 2000 mg & maximum rate is 100 mL/hr. **Ferric derisomaltose** (category B3): lack of data.

Breastfeeding: Iron polymaltose: safe to use. Ferric carboxymaltose: safe to use.
Ferric derisomaltose: lack of data.

Refer to the Royal Women's Pregnancy and Breastfeeding Medicines Guide for more information.

DRUG INTERACTIONS

Oral iron – concomitant use of IV and oral iron decreases oral iron absorption. Oral iron should not be required post infusion as IV iron is designed to replete iron stores. If needed in unusual circumstances, commence oral therapy at least 5 to 7 days after the last dose of IV iron.

DOSAGE AND ADMINISTRATION

Due to the risk of anaphylaxis, ensure resuscitation equipment including oxygen, adrenaline, corticosteroid and antihistamine are readily available for patients located within the hospital. For GH at Home patients, refer to CPP0681 Administration of Intravenous Iron in the Home.

Extravasation may cause permanent staining (tattooing) – ensure parenteral iron is appropriate. Stop the infusion immediately if this occurs (see also Adverse Effects). To minimise the risk:

- **Iron MUST be diluted prior to infusion.**
- **Patient and nurse to monitor IV site and surrounding tissue closely during infusion (avoid covering site or administering at night or when patient cannot report symptoms).**
- **Minimise cannulation attempts.**
- **AVOID cannulation at sites of flexion (such as the cubital fossa) or the back of the hand. The distal veins of the forearm are the preferred site.**
- **Use an appropriate cannula size (20 to 24 gauge).**
- **Check cannula patency and flush prior to administration and on completion.**
- **Consider placing a new cannula prior to infusion if Visual Infusion Phlebitis (VIP) score is 1 or 2, or existing cannula is approaching 72 hours in-situ.**

Consent is required before ordering an iron infusion. The prescriber must:

- **Explain the benefits and potential risks (including skin staining and anaphylaxis);**
- **Answer any questions from the patient/medical treatment decision maker;**
- **Provide Intravenous Iron Infusion Patient Information CID0330; then**
- **Gain verbal informed consent to proceed with the infusion;**
- **Document that the above has occurred in the medical record.**

Administer via peripheral line or CVC.

All IV iron orders are to be approved by a registrar or consultant.

Iron infusions are only to be administered during the hours where medical support is readily available to that area. Medical and Nursing staff to discuss prior to preparing the infusion.

DOSE (ALL IRON FORMULATIONS)

Use the simplified dosing table below unless individually adjusted dosing is required – e.g. extremes of body weight or Hb – then use the Ganzoni equation in Appendix 1.

Table 2: Simplified Dosing for Iron Infusions

Pre-transfusion Hb (g/L)[+]	Body weight 35 – 49 kg	Body weight 50 kg – 69 kg	Body weight 70 kg or more*
Less than 100	1000 mg	1500 mg^	2000 mg^
Over 100	20 mg/kg (round to nearest 100 mg)	1000 mg	1500 mg^

* Use ideal body weight for obese patients. See Table 7 within Appendix 1.

[+] Each unit of PRBC contains approximately 200 mg elemental iron, this needs to be taken into consideration in massive transfusion (greater than 5 units of blood).

^ Split dosing may be required: maximum single dose of ferric carboxymaltose is 1000 mg per week, maximum single dose of ferric derisomaltose is 1500 mg per week.

For dosing in pregnancy see RWH Management of Iron Deficiency in Maternity & Gynaecology Patients

CHOICE OF IRON FORMULATION

Use the flow chart below UNLESS patient meets any of these exception criteria:

- **Previous <u>severe</u> allergic reaction to ANY iron infusion:**
  - Seek specialist advice from treating physician/Haematology
- **Previous <u>mild to moderate</u> allergic reaction to iron polymaltose, OR**
  Heart failure with LVEF less than 50%, OR
  GH at Home (see also CPP0681 Administration of Intravenous Iron in the Home if applicable):
  - Dose 1000 mg or less – use ferric carboxymaltose. Dose over 1000 mg – use ferric derisomaltose
- **Obstetrics, gynaecology:** use ferric carboxymaltose.
- **Other clinical need for an alternative to iron polymaltose** (e.g. patient is likely to misuse or remove the line during longer infusion time) – as per Pharmacy Clinical Lead.

INPATIENTS LISTED HERE DO NOT NEED TO WAIT UNTIL DAY OF DISCHARGE TO RECEIVE IV IRON. NO PBS PRESCRIPTION REQUIRED UNLESS IT IS ALREADY DAY OF DISCHARGE

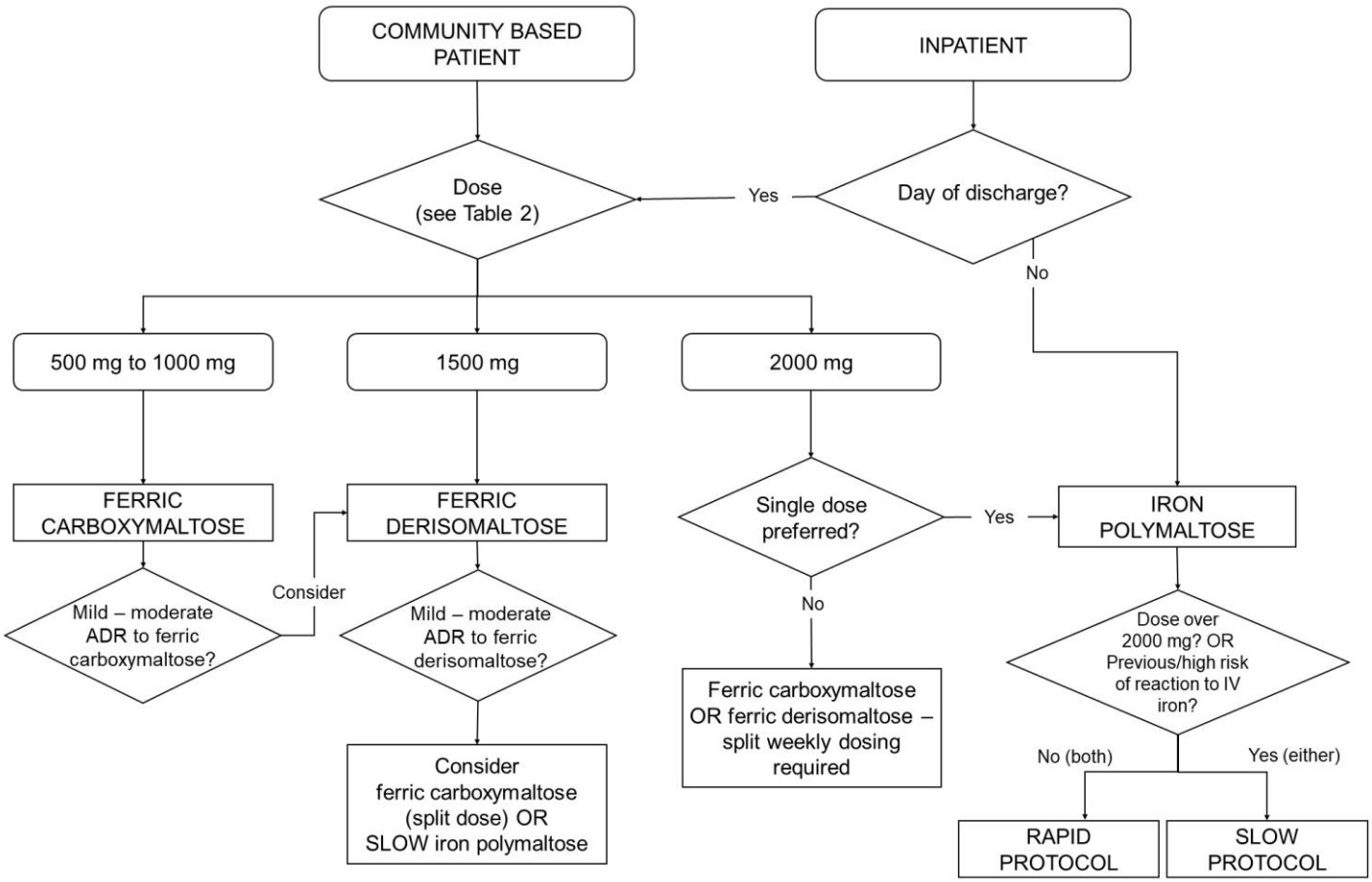

Table 3: Is a Pharmaceutical Benefits Scheme (PBS) prescription required?

Patient Type	Product	PBS Prescription
Inpatient (not day of discharge)	Iron polymaltose	No
Inpatient (not day of discharge) AND meets exception criteria	As per box above	No
Inpatient, day of discharge	Ferric carboxymaltose/ derisomaltose Iron polymaltose	Yes No
GH at Home	Ferric carboxymaltose	No
Community based patient	As per flow chart above	Yes

PRE-TREATMENT CONSIDERATIONS

- Premedication is not routinely required. May be prescribed for patients with previous reaction to an iron infusion, or at the discretion of the treating team. If required, give the following 30 minutes prior to administration of iron:
  - Hydrocortisone 100 mg IV AND
  - Loratadine OR cetirizine 10 mg orally.
- For consent requirements and guidance on minimizing risk of extravasation see Dose and Administration box on page 4 above.
- Order using generic medication name with dose in milligrams (mg) on Intravenous Orders Chart MR/645.0 - see Appendix 2: Prescribing Guide for example orders
- A PBS prescription may also be required - see Table 3 above.

FERRIC CARBOXYMALTOSE & FERRIC DERISOMALTOSE

	Ferric carboxymaltose	**Ferric derisomaltose**
Maximum dose	1000 mg per week	1500 mg per week
Total infusion time	Up to 500 mg: 7 min (857 mL/hr) Over 500 mg: 15 min (400 mL/hr)	Up 1000 mg: 20 min (300 mL/hr) Over 1000 mg: 30 min (200 mL/hr)
Infusion preparation	Withdraw equivalent volume of fluid from a sodium chloride 0.9% 100 mL bag before adding iron to the bag.	
Total volume	100 mL	
Diluent	Sodium chloride 0.9%	
Minimum concentration	2 mg/mL	1 mg/mL
Flush	Flush the line with 50 mL sodium chloride 0.9% after completion of the infusion, at the same rate the infusion was running.	
Second dose (if required)	▪ Give the largest dose first if split dosing required ▪ Give second dose at least one week after the first dose ▪ Second dose may not be required if Hb is normal, or 2nd dose is exceedingly inconvenient (e.g. difficulties with transport, behavioural issues) provided there is no concern about ongoing losses. Consider a single dose of 1000 mg with a clearly documented plan for follow up at 6 weeks for repeat iron studies and FBE (Karim, S 2020)	

IRON POLYMALTOSE

Maximum dose: 2500 mg.
Rate: prescriber must specify 'RAPID APP' or 'SLOW APP'

Eligibility for RAPID Protocol (preferred):

- Nil previous reactions to any iron infusion, AND
- Patient not at high risk of reaction (i.e. nil history of multiple allergies, not pregnant) AND
- Dose prescribed is 2000 mg or less.

Table 4: Iron Polymaltose Rapid & Slow Infusion Protocols

Protocol	Dose	Total volume & diluent	Initial (0 to 15 min)	Increased rate if tolerated (15 min to end)	Approximate total infusion time
RAPID	Up to 1500 mg	250 mL sodium chloride 0.9%	**Rate:** 40 mL/hr **VTBI:** 10 mL **Duration:** 15 min **Observations:** baseline, then every 5 min	**Rate:** 240 mL/hr **VTBI:** 240 mL **Duration:** 60 min **Observations:** every 15 min	75 min
	Over 1500 mg up to 2000 mg	250 mL sodium chloride 0.9%	**Rate:** 40 mL/hr **VTBI:** 10 mL **Duration:** 15 min **Observations:** baseline, then every 5 min	**Rate:** 160 mL/hr **VTBI:** 240 mL **Duration:** 1 hr 30 min **Observations:** every 15 min	105 min
SLOW	Up to 2500 mg	500 mL sodium chloride 0.9%	**Rate:** 40 mL/hr **VTBI:** 10 mL **Duration:** 15 min **Observations:** baseline, then every 5 min	**Rate:** 120 mL/hr **VTBI:** 490 mL **Duration**: 4 h 5 min **Observations:** 15 min after rate increase, then every 30 min	4 hr 20 min

Rate should only be increased if the current infusion rate is tolerated.
If a mild infusion-related reaction occurs during the infusion, temporarily stop the infusion and restart at the same rate or at a reduced rate of 60 mL/hr.

Administration procedure:

Pharmacy will dispense iron polymaltose 100 mg/2 mL ampoules, a 5-micron filter needle and black light protective bag.
Nursing staff prepare the iron infusion on the ward immediately prior to infusion.

1. Draw up the required volume of iron polymaltose and remove the equivalent volume of fluid from the bag of sodium chloride 0.9%.
2. Add iron to the bag using the 5-micron filter needle (removes glass particles).
3. Cover the infusion with light protective bag once prepared and during administration.
4. Prime the line with iron solution.
5. Infuse via Alaris® pump module with Guardrails as per RAPID or SLOW protocol
6. Nurse to remain with the patient for the first 15 minutes while the initial rate infuses, taking observations every 5 minutes.
7. Increase the rate if tolerated after 15 min. Record observations every 15 minutes (rapid protocol) - OR - 15 minutes after the rate increase then every 30 minutes (slow protocol).
8. At completion of infusion, record final set of observations, then flush line with 50 mL of sodium chloride 0.9% at the same rate the infusion was running.
9. Patient to remain under observation for 30 minutes after infusion.

Table 5: Volume of Iron Polymaltose to add to/remove from bag

Prescribed Dose (elemental iron)	Volume of iron (remove equivalent volume from bag)	Ampoules
1000 mg	20 mL	10
1500 mg	30 mL	15
2000 mg	40 mL	20
2500 mg	50 mL	25

General Administration Information

- **Infusion pump:** BD Alaris PCU with pump module and Guardrails
- **Routes of administration:**

IV injection:	No
IV intermittent infusion:	Yes
IV continuous infusion:	No
IM injection:	No
Subcut injection:	No

- **Compatible/incompatible IV drugs/fluids:** sodium chloride 0.9% only.
  Consult the Australian Injectable Drugs Handbook ('Yellow book') in your ward area. **Assume all unlisted drugs and IV fluids are incompatible – contact Pharmacy for further advice.**

MONITORING (INCLUDING BLOOD TESTS)

- Baseline haemoglobin and iron studies (no older than 4 months), height and weight are required before prescribing.
- Follow up FBE and iron studies should be arranged for 6 weeks after the last iron infusion.
- Serum phosphate levels may be appropriate in certain patients at risk of hypophosphataemia e.g. patients receiving repeated doses of ferric carboxymaltose, borderline baseline phosphate levels. See Adverse Reactions section for more information.

NURSING PRACTICE POINTS

- A nurse should be present in the infusion location to monitor for any reactions during the infusion.
- Prior commencement of infusion, ensure:
  - Informed consent was provided and documented in the medical record
  - Patient was provided Intravenous Iron Infusion Patient Information CID0330
  - Patient is well with nil current infections
- Ask patient to report any signs or symptoms listed under Adverse Effects (especially anaphylaxis or extravasation) immediately.

Observations (respiratory rate, oxygen saturation, blood pressure, pulse, temperature):

- **All iron infusions:** take a set of observations at baseline and infusion completion. Monitor patient for adverse effects for 30 minutes from infusion end.
- **In addition, for iron polymaltose only:** check observations every 5 minutes for the first 15 minutes, then:
  - Rapid protocol: every 15 minutes until infusion end.
  - Slow protocol: 15 minutes after rate increase, then every 30 minutes until infusion end.

ADVERSE EFFECTS

Always ensure patient is aware of the risks, and to report any signs or symptoms immediately. See also CPP0573 Adverse Drug Reactions (Including Allergies) – Recording and Reporting.

Table 6: Adverse Reactions and Management

Reaction Information	Management
Anaphylaxis (rare, 1 in 1000 to 1 in 10,000 for ferric carboxymaltose and ferric derisomaltose) **Severe hypersensitivity** ▪ Respiratory difficulties: bronchospasm, wheezing, stridor ▪ Angioedema, laryngeal oedema, urticaria ▪ Tachycardia and hypotension ▪ Loss of consciousness ▪ Typically occurs within the first few minutes of administration	▪ STOP the infusion immediately **Within hospital facilities:** ▪ Call a MET response or Code Blue ▪ Contact the Medical Officer ▪ Ensure resuscitation trolley, adrenaline and hydrocortisone are at the bedside **In the community (GH at Home):** ▪ Dial 000 ▪ Follow GH at Home Anaphylaxis Immediate Management procedure
Extravasation of IV iron and permanent skin staining (uncommon, around 1 in 100) ▪ Discomfort, pain, swelling, pressure or pricking ▪ Skin discolouration (most commonly light to dark brown) at or around the infusion site ▪ Permanent staining may occur without obvious extravasation  *Image: Iron Staining. Source: Canning, M. & Grannell, L. 2020 'A stain on iron therapy.' Aust Prescr; 43:160-3, retrieved 18/05/2023 (https://doi.org/10.18773/austprescr.2020.051). Image used under CC BY-NC-ND 4.0 licence.*	▪ STOP the infusion immediately and notify Medical Officer ▪ Disconnect giving set, aspirate any residual drug and remove the cannula ▪ Apply a cold pack if there is swelling or soreness, however this does not appear to prevent the spread of the stain.
Mild to moderate hypersensitivity ▪ Localised rash ▪ Itch ▪ Nausea ▪ Abdominal cramping ▪ Dyspnoea ▪ Hypotension ▪ Tachycardia	▪ PAUSE infusion. ▪ Contact Medical Officer if required. ▪ Most infusion reactions resolve once the infusion is stopped and do not recur when restarted ▪ Slower infusion rate may be required (for iron polymaltose see Table 4 above) ▪ An antihistamine (e.g. oral cetirizine/loratadine 10 mg) and/or IV hydrocortisone may be prescribed
Infusion-related reactions ▪ Fishbane reaction: a non-allergic reaction consisting of facial flushing, myalgias of the chest and back. ▪ Transient fever, arthralgias, myalgias, flushing	
General (immediate or delayed) ▪ Headache (common) ▪ Dizziness (common) ▪ Taste disturbance (uncommon) ▪ Flu like symptoms, myalgias and arthralgias (uncommon) may occur 24 to 72 hours post infusion	▪ Notify patient not to be alarmed or consider this an allergic reaction ▪ Seek medical attention if severe ▪ Paracetamol may be taken for aches/fever
Hypophosphataemia ▪ May occur 5 to 20 days post infusion ▪ Especially associated with ferric carboxymaltose ▪ Clinical relevance is unknown ▪ May be asymptomatic, or severe cases may present with muscle weakness, rhabdomyolysis, osteomalacia, haemolytic anaemia, impaired leukocyte and platelet function, paralysis, confusion, heart failure, arrhythmias, respiratory failure, progressive encephalopathy, seizures, coma	Treatment may not be necessary See DRG0002 Phosphate for enteral or IV replacement if required for moderate to severe hypophosphataemia

DRUG PRESENTATIONS AND STORAGE

Iron polymaltose: 100 mg/2 mL ampoules. Store below 25°C. Do not freeze. Protect from light. Infusion solution: Protect from light. 2 mg/mL – stable for 24 hours at 25°C or 2 to 8°C. 5 mg/mL – stable for 12 hours at 25°C or 24 hours at 2 to 8°C. Over 5 mg/mL – use immediately.

Ferric carboxymaltose: 500 mg/10 mL or 1000 mg/20 mL vials. Store below 30°C. Do not freeze or refrigerate. Infusion solution: stable for 12 hours at 2 to 8°C. Solutions of 2 and 5 mg/mL – stable for 24 hours at 30°C.

Ferric derisomaltose: 500 mg/5 mL or 1000 mg/10 mL vials. Store below 30°C. Infusion solution: use immediately.

APPENDIX 1: ALTERNATIVE IRON DOSE CALCULATION

Ganzoni formula to calculate dose:

Use ideal body weight for obese patients - see Table 7 below - Ideal Body Weight.

Iron dose (mg) = [target Hb (g/L)* - actual Hb (g/L)] x weight (kg) x 0.24 + iron depot**

* Target Hb - weight 34 kg or less = 130 g/L, weight greater than 34 kg = 150 g/L

** Iron depot - weight 34 kg or less = 15 mg/kg, weight 34 kg or greater = 500 mg

Round final dose to the nearest 100 to 250 mg.

Example calculation:

For a patient with an ideal body weight of 60 kg and Hb = 80 g/L, target Hb is 150 g/L and the iron depot = 500 mg

The required iron dose = (150 - 80) x 60 x 0.24 + 500 mg = 1508 mg

Round dose to 1500 mg

Table 7: Ideal Body Weight

Height		Ideal body weight (kg)*	
cm	**Feet and inches**	**female**	**male**
155	5‘1”	48	53
160	5’3”	53	57
165	5’5”	57	62
170	5’7”	62	66
175	5’9”	66	71
180	5’11”	71	75
185	6’1”	75	80
190	6’3”	80	84
195	6’5”	84	89
200	6’7”	89	93
205	6’9”	93	98
210	6’11”	98	102

* Ideal weight for male = 50 kg + 0.9 kg/each cm over 152 cm (2.3 kg/each inch over 5 feet)
Ideal weight for female = 45.5 kg + 0.9 kg/each cm over 152 cm (2.3 kg/each inch over 5 feet)

APPENDIX 2: PRESCRIBING GUIDE

Order using generic medication name with dose in milligrams (mg) on Intravenous Orders Chart MR/645.0.
A PBS prescription may also be required - see Table 3 above.

IRON POLYMALTOSE: RAPID PROTOCOL (Infusion time: 75 min to 105 min)

Eligibility for rapid protocol:

- ✓ Nil previous reactions to any iron infusion, AND;
- ✓ Patient is not high risk of reaction (i.e. nil history of multiple allergies, not pregnant), AND;
- ✓ Dose prescribed is 2000 mg or less.

Example order for 1500 mg dose:

Medical Order					
Date	Flask No / Flask Vol mL	Type of Fluid Including Strength	Additive(s) Including Dose	Rate: Hr per flask or mL per hour	Medical Officer's Signature
1/4/23	250 mL	Sodium chloride 0.9%	Iron polymaltose 1500 mg	RAPID APP	A Doctor

Total volume: 250 mL **Rate:** MUST specify 'RAPID APP'
Fluid: sodium chloride 0.9% **Dose:** up to 2000 mg for rapid protocol

IRON POLYMALTOSE: SLOW PROTOCOL (Infusion time: 4 to 5 hr)

For patients who do not meet criteria for rapid protocol

Example order for 1500 mg dose:

Medical Order					
Date	Flask No / Flask Vol mL	Type of Fluid Including Strength	Additive(s) Including Dose	Rate: Hr per flask or mL per hour	Medical Officer's Signature
1/4/23	500 mL	Sodium chloride 0.9%	Iron polymaltose 1500 mg	SLOW APP	A Doctor

Total volume: 500 mL **Rate:** MUST specify 'SLOW APP'
Fluid: sodium chloride 0.9% **Dose:** up to 2500 mg for slow protocol

FERRIC CARBOXYMALTOSE (Infusion time: 7 min to 15 min)

Example order for 1000 mg dose:

Medical Order					
Date	Flask No / Flask Vol mL	Type of Fluid Including Strength	Additive(s) Including Dose	Rate: Hr per flask or mL per hour	Medical Officer's Signature
1/4/23	100 mL	Sodium chloride 0.9%	Ferric carboxymaltose 1000 mg	APP	A Doctor

Total volume: 100 mL **Rate:** APP
Fluid: sodium chloride 0.9% **Dose:** up to 1000 mg per single dose

FERRIC DERISOMALTOSE (Infusion time: 20 min to 30 min)

Example order for 1500 mg dose:

Medical Order					
Date	Flask No / Flask Vol mL	Type of Fluid Including Strength	Additive(s) Including Dose	Rate: Hr per flask or mL per hour	Medical Officer's Signature
1/4/23	100 mL	Sodium chloride 0.9%	Ferric derisomaltose 1500 mg	APP	A Doctor

Total volume: 100 mL **Rate:** APP
Fluid: sodium chloride 0.9% **Dose:** up to 1500 mg per single dose