Iron Polymaltose Infusions in Adults (MAG)

Document Type	Medication Administration Guideline (Adult IV)
Function	Clinical Practice, Patient Care
Directorates	ADHB Clinical
Departments affected	As above
Patients affected (if applicable)	All adult patients requiring an iron infusion
Staff members affected	All ADHB clinicians
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Contents

1. Indications

- Iron deficiency requiring supplementation
- Oral iron intolerance or requirement for rapid increase in iron stores
- Treatment or prevention of anaemia from excessive blood loss

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2. Dose and administration

NB: This guideline includes 3 different ways of administering iron infusions:

- Slow (traditional) administration
- Rapid administration
- Fluid Restricted/Renal administration

For slow administration calculate total replacement dose of iron using either this equation method or the table provided.

Equation method: Iron dose (mg) = Body weight (kg) x (Target Hb – Actual Hb in g/L) x 0.24 + Iron depot

Target Hb = 150 g/L for patient over 34 kg

Iron depot = 500 mg for patients over 34 kg

NB: A dose lower than the total replacement dose can be used at the discretion of the prescribing clinician.

Note that each 2 ml vial of Ferrum H® contains 100 mg of iron (equivalent to 318 mg of iron polymaltose).

Note that there is more than one form of parenteral iron. The prescriber must always identify which form of iron they require – the dose itself should always be expressed as mg of elemental iron. Always check with the prescriber if there is any confusion.

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a. Slow administration

This table uses a target Hb of 150g/L

Body weight (kg)	Hb 60 g/L	Hb 75 g/L	Hb 90 g/L	Hb 105g/L
	Dose (mg)	**Dose (mg)**	**Dose (mg)**	**Dose (mg)**
35 kg	1250 mg	1150 mg	1000 mg	900 mg
40 kg	1350 mg	1200 mg	1100 mg	950 mg
45 kg	1500 mg	1300 mg	1150 mg	1000 mg
50 kg	1600 mg	1400 mg	1200 mg	1050 mg
55 kg	1700 mg	1500 mg	1300 mg	1100 mg
60 kg	1800 mg	1600 mg	1350 mg	1150 mg
65 kg	1900 mg	1650 mg	1450 mg	1200 mg
70 kg	2000 mg	1750 mg	1500 mg	1250 mg
75 kg	2100 mg	1850 mg	1600 mg	1300 mg
80 kg	2250 mg	1950 mg	1650 mg	1350 mg
85 kg	2350 mg	2050 mg	1700 mg	1400 mg
90 kg and over	2450 mg	2150 mg	1800 mg	1450 mg

Note that each 2 ml vial of Ferrum H® contains 100 mg of iron (equivalent to 318 mg of iron polymaltose)

Please note this table provides the dose in **milligrams** of iron. Caution as other references may give the dose in ml or number of ampoules.

- Add required dose to **500 ml** sodium chloride 0.9%
- Infuse test dose at 40 ml/hour for 15 minutes.
- If tolerated, increase infusion rate to 120 ml/hour for remainder of infusion.

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b. Rapid administration

This table uses a target Hb of 150g/L

Body weight (kg)	Hb 60 g/L	Hb 75 g/L	Hb 90 g/L	Hb 105g/L
	Dose (mg)	**Dose (mg)**	**Dose (mg)**	**Dose (mg)**
35 kg	1250 mg	1150 mg	1000 mg	900 mg
40 kg	1350 mg	1200 mg	1100 mg	950 mg
45 kg	1500 mg	1300 mg	1150 mg	1000 mg
50 kg	1500 mg	1400 mg	1200 mg	1050 mg
55 kg	1500 mg	1500 mg	1300 mg	1100 mg
60 kg	1500 mg	1500 mg	1350 mg	1150 mg
65 kg	1500 mg	1500 mg	1450 mg	1200 mg
70 kg	1500 mg	1500 mg	1500 mg	1250 mg
75 kg	1500 mg	1500 mg	1500 mg	1300 mg
80 kg	1500 mg	1500 mg	1500 mg	1350 mg
85 kg	1500 mg	1500 mg	1500 mg	1400 mg
90 kg and over	1500 mg	1500 mg	1500 mg	1450 mg

Note that each 2 ml vial of Ferrum H® contains 100 mg of iron (equivalent to 318 mg of iron polymaltose)

Please note this table provides the dose in **milligrams** of iron. Caution as other references may give the dose in ml or number of ampoules.

The dose has been capped at 1500 mg for the rapid administration protocol.

- Add required dose to **250 ml** sodium chloride 0.9%
- Infuse test dose at 40 ml/hour for 15 minutes.
- If tolerated, increase infusion rate to 250 ml/hour for remainder of infusion.

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c. Fluid restricted or renal disease administration

Add 1000 mg (**1 g)** of iron to **250 ml** sodium chloride 0.9%
Infuse test dose at 20 ml/hour for 30 minutes
If tolerated, increase infusion rate to 80 ml/hour for remainder of infusion.

See Associated ADHB documents section for separate guideline for the administration of intravenous iron in chronic kidney disease (CKD) and dialysis patients.

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3. Observation and documentation

- Anaphylactoid reactions have been reported with parenteral iron but are uncommon with iron polymaltose. These primarily occur in the first few minutes of an infusion, and present as respiratory difficulty, hypotension and tachycardia. If they occur, stop the infusion and contact the prescriber.
- Monitor patients every 5 minutes for the first 15 minutes, then every 15 minutes for the first hour of the infusion, and then every 30 minutes thereafter.
- Monitor blood pressure, respiration and heart rate.

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4. Special considerations

- Rapid administration of iron and infusion volumes <500 ml are outside of manufacturer recommendations and therefore unlicensed in NZ. This recommendation has been developed from a single clinical trial and anecdotal reports of efficacy and safety. Clinicians should clearly specify which administration protocol they intend to use when prescribing iron polymaltose at ADHB.
- If infusion related adverse reactions occur during the rapid infusion, reduce rate to 60 ml/hour. If symptoms persist, stop infusion and consult prescriber. If symptoms resolve, the infusion rate may be increased slowly.
- Ensure that the underlying cause of anaemia is established. Iron polymaltose is not useful for the sole treatment of macrocytic or haemolytic anaemia.
- Administration of iron during the first trimester of pregnancy must be determined by a consultant.

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5. Presentation

Amber ampoules containing 100mg iron (equivalent to 318 mg iron polymaltose) per 2ml (solution, Ferrum H®)

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6. Storage

Store unopened ampoules at room temperature. Protect from light.

Diluted solutions for infusion should be prepared as soon as practical before administration. Solutions for infusion must be used within 12 hours.

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7. Supporting evidence

Garg M, Morrison G, Friedman A, Lau A, Lau D, Gibson PR. A rapid-infusion protocol is safe for total dose iron polymaltose: time for change, Internal Medicine Journal, 2011.

Ferrum H (data sheet online). Aspen Pharmacare Australia Pty Ltd. (updated 31/07/2008). Available from: URL: http://www.medsafe.govt.nz

Newman E, Ahmad I, Thorton A, Gibson PR. Safety of Iron Polymaltose given as a total dose iron infusion. 2006. Internal Medicine Journal 36,672-674.

Roger S. CARI (Caring for Australians with Renal Impairment) Guidelines, Biochemical and Haematological Targets-Iron. April 2006.

Guidelines for the administration of IV iron polymaltose in chronic kidney disease via a continuous intravenous infusion. Royal Perth Hospital Anaemia Co-ordinator Guidelines for Administration of Iron Polymaltose. March 2002.

Notes on Injectable Drugs, 6th Edition. New Zealand Hospital Pharmacists' Association (Inc). 2010.

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8. Associated ADHB documents

Iron Infusions in Children
Iron Infusion in Adult Chronic Kidney Disease (CKD) & Dialysis Patients
Iron Infusion in Pregnancy
Medications - Administration
Patient Information Leaflet: IV Iron Infusion

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9. Disclaimer

No guideline can cover all variations required for specific circumstances. It is the responsibility of the health care practitioners using this ADHB guideline to adapt it for safe use within their own institution, recognise the need for specialist help, and call for it without delay, when an individual patient falls outside of the boundaries of this guideline.

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10. Corrections and amendments

The next scheduled review of this document is as per the document classification table (page 1). However, if the reader notices any errors or believes that the document should be reviewed ***before*** the scheduled date, they should contact the owner or the Clinical Policy Advisor without delay.

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