

INTRAVENOUS IRON – SAFE PRESCRIBING - CALCULATE AND MEASURE

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- ▶ CALCULATE INDIVIDUAL DOSES CAREFULLY
- ▶ MAKE SURE FACILITIES FOR RESUSCITATION ARE AVAILABLE
- ▶ MONITOR FOR 30 MINUTES AFTER ADMINISTRATION
- ▶ TAKE CARE WITH PATIENTS WHO HAVE ALLERGIES, ASTHMA OR ECZEMA
- ▶ AVOID GIVING DURING PREGNANCY IF AT ALL POSSIBLE

Intravenous (IV) iron is a useful alternative if oral iron is either considered unsuitable or it has been unsuccessful. Reasons for this may include malabsorption or continuing blood loss, poor adherence or intolerance.

Note: If oral iron is taken regularly and is well absorbed, the haemoglobin response of oral and IV iron is expected to be similar.

CALCULATE INDIVIDUAL DOSES CAREFULLY

The appropriate dose of IV iron must be calculated for each patient individually, based on the target haemoglobin (Hb) required, the patient's actual Hb and their bodyweight.

Note: If the patient is overweight, a normal body weight should be assumed.

It is important that the calculated dose is not exceeded. Iron requirements can be estimated using the Ganzoni Formula below. Please refer to the specific data sheets for recommended concentrations and infusion rates.

Dose Calculation

Iron dose (mg) = Hb iron deficiency + iron stores

Iron dose (mg) = body weight (kg) x (target Hb – actual Hb (g/L)) x 0.24 + 500

Target Hb = 150g/L*

Iron stores = 500mg*

* For patients 35kg and over

Example:

Patient weight = 60kg Target Hb = 150g/L Actual Hb = 60g/L

Iron dose (mg) = 60kg x (150 – 60) x 0.24 + 500mg

= 1296mg + 500mg = 1800mg**

** Round to nearest 100mg

Note: Oral iron should not be given until at least 5 days after the last infusion has been given, otherwise the oral iron absorption will be reduced.

Ferric carboxymaltose (Ferinject®) has an advantage over other intravenous iron complexes in that it can be given over 15minutes rather than several hours. It must not be administered by the subcutaneous or intramuscular route but can be given as a slow IV bolus or as an infusion in normal saline (0.9%). The maximum

single IV dose is 1000mg of iron, with no more than 1000mg per week. For the example above, 2 doses, 1 week apart will be required. For infusions of ferric carboxymaltose between 500-1000mg, the minimum administration time is 15minutes. A bolus may be given very slowly, over 15minutes or 100mg per minute for doses less than 500mg.

MAKE SURE FACILITIES FOR RESUSCITATION ARE AVAILABLE

Anaphylactoid reactions are considered to be uncommon, and usually occur within the first few minutes of administration. Resuscitative interventions and an anaphylaxis kit must be available, and each patient should be monitored **closely** for signs of hypersensitivity especially in the first 5minutes of administration. Hypersensitivity reactions have been reported after previously uneventful doses, so each patient should be observed regardless of whether they have received IV iron before.

If allergic reactions or signs of intolerance occur during administration, the treatment must be stopped immediately. Inform patients to report any breathing difficulties, dizziness or mouth swelling during and following administration.

MONITOR FOR 30 MINUTES AFTER ADMINISTRATION

It is recommended to observe the patient for adverse effects for 30 - 60minutes following administration. The most commonly reported adverse effects include headache, dizziness, hypertension, nausea, abdominal pain, constipation and diarrhoea. Inform patients that some of these adverse effects may occur several hours or days following administration.

Reports of injection site reactions such as pain or bruising are uncommon, however, there is a risk of long-lasting brown discoloration and irritation if paravenous leakage occurs. To prevent this, give a normal saline flush prior to administration to check the placement of the cannula, and flush again with normal saline after the infusion or bolus has finished.

During the first year of treatment, check the full blood count every 3 months to ensure that iron levels have been corrected and are maintained, then check again at 2 years.

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INTRAVENOUS IRON

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TAKE CARE WITH PATIENTS WHO HAVE ALLERGIES, ASTHMA OR ECZEMA

Patients with an immune or inflammatory condition such as asthma, eczema, rheumatoid arthritis or allergies may have a higher risk of an allergic or anaphylactoid reaction with IV iron. Patients with rheumatoid arthritis or lupus erythematosus may be at risk of exacerbation of joint pain. Parenteral iron must be used with caution in patients with acute or chronic infections, or impaired hepatic function.

Note: There is emerging evidence to support the use of ferric carboxymaltose in patients with chronic heart failure and iron deficiency.

AVOID DURING PREGNANCY IF AT ALL POSSIBLE

Because there are no adequate, well-controlled studies of IV iron in pregnant women, it is contraindicated during the first trimester of pregnancy; oral iron is usually sufficient. During the second and third trimesters, only give IV iron if the benefits of treatment outweigh the potential risk to the foetus. Calculate the dose based on the patient's pre-pregnancy weight.

The transfer of iron carboxymaltose (Ferinject[®]) to human milk is considered negligible.

There is no clinical data to support the use of iron carboxymaltose in children under 14 years, so it cannot be recommended for paediatric use.

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KEY REFERENCES

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2. Healthcare Logistics. Ferinject[®] New Zealand Datasheet. 19-12-13 www.medsafe.govt.nz/profs/datasheet/f/ferinjectinj.pdf (Accessed 30-10-14)
3. Medsafe (New Zealand Medicines and Medical Devices Safety Authority). Intravenous iron and hypersensitivity. Prescriber Update 2014;35(1):3 www.medsafe.govt.nz/profs/PUArticles/PDF/PrescriberUpdate_March2014.pdf (Accessed 17-06-14)

[CLICK HERE FOR MORE INFORMATION ON INTRAVENOUS IRON INCLUDING A FULL REFERENCE LIST](#)

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