### Iron Sucrose

<table>
<thead>
<tr>
<th>Title</th>
<th>Iron sucrose (Venofer) prescribing guideline</th>
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<tbody>
<tr>
<td>Keywords</td>
<td>iron sucrose, iron, Venofer, anaemia, paediatrics, children, pharmacy gastroenterology, haematology, JHCH</td>
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<tr>
<td>Areas where Guideline applicable</td>
<td>All clinical areas in JHCH, specifically paediatric haematology and gastroenterology</td>
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<tr>
<td>Areas where Guideline not applicable</td>
<td>NICU</td>
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<td>Authorised Prescribers:</td>
<td>Registered Paediatric Medical Officers</td>
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</table>
| Indication for use | For the treatment of iron deficiency anaemia in the following circumstances;  
- When iron deficiency persists despite oral supplementation  
- When oral therapy is contraindicated  
- When enteric absorption of iron is defective  
- When patient nonadherence or persistent gastrointestinal intolerance make oral therapy impractical |
| Contraindications | Hypersensitivity to iron products, haemochromatosis, iron overload or anaemia not caused by iron deficiency. |
| Precautions | Intravenous iron preparations must be used cautiously in liver impairment, asthma and inflammatory conditions.  
- Hypersensitivity or anaphylactic reactions have been reported rarely, however adrenaline (epinephrine) and cardiopulmonary resuscitation facilities must be available.  
- Oral iron therapy should not be commenced for at least 5 days after iron infusion as it will not be absorbed.  
- Care must be taken to avoid extravasation. Nursing staff should check IV site every 30 minutes until the end of infusion. Iron sucrose is a strongly alkaline solution (pH approx. 10). In the event of extravasation, infusion should be ceased. Ice may be applied to cause local vasoconstriction and decrease fluid absorption. Massage of the area should be avoided. |
| Proposed Place in Therapy | Iron deficiency anaemia where oral therapy is ineffective or not tolerated |
| Presentation | 5 mL ampoules containing elemental iron 20 mg/mL as iron sucrose (corresponding to 100 mg of iron (III) per ampoule) |
| Reconstitution and Dilution | Dilute each 1 mL Venofer (20 mg) in 20 mL of sodium chloride 0.9% immediately prior to injection (1 mg/mL). This is equivalent to 5 mL (100 mg) in 100 mL of sodium chloride 0.9%. More dilute solutions are not stable. Do not mix with any other drugs or infusion solutions. Do not use any vial with sediment. |
Dosage and Administration

Dose of 5 mg/kg \(^{(1,4)}\). Maximum 300 mg \(^{(5)}\)

First IV infusion:
Dilute dose to 1 mg/mL with sodium chloride 0.9% and infuse over 90 minutes\(^{(1)}\)

Second and subsequent IV infusions can be given over a shorter infusion time: \(^{(6)}\)
Dilute dose to 1 mg/mL with sodium chloride 0.9% and infuse;

<table>
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<tr>
<th>Dose</th>
<th>IV Infusion time</th>
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<tr>
<td>1–100 mg</td>
<td>Over minimum of 15 minutes</td>
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<tr>
<td>101–200 mg</td>
<td>Over minimum of 30 minutes</td>
</tr>
<tr>
<td>201–300 mg</td>
<td>Over 90 minutes</td>
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Do not dilute solution further than 1 mg/mL as the solution may become unstable \(^{(2)}\)

*IV site should be checked every 30 minutes by nursing staff*

Standard patient observations (i.e. respiratory rate, BP, temperature) should be monitored at commencement, at 15 minutes, at 30 minutes and/or then at completion.

SC: Not recommended

IM: Not recommended

Duration of Therapy

Dose may be repeated at minimum duration of every two weeks, until iron stores and FBC have normalised \(^{(1)}\).

Compatibility

Fluids & Solutions: Sodium chloride 0.9% \(^{(2,3)}\)

Incompatibility

Fluids/Drugs: No information. Do not use with any other infusion solutions or therapeutic agents, as there is potential for precipitation and/or interaction \(^{(2,3)}\).

Iron sucrose (Venofer) reduces the absorption of oral iron; therefore any oral iron therapy should be started at least five days after the last injection, \(^{(2)}\) unless instructed otherwise by a paediatric haematologist*.

Adverse Effects

Transient taste perversion (i.e. metallic taste), hypotension, fever and shivering, injection-site reactions and nausea. Some of these adverse effects may be delayed. Hypersensitivity or anaphylactic reactions occur rarely \(^{(2,6)}\).

Antidote

Overdosage can cause acute iron overloading. Overdosage should be treated with supportive measures and, if required, an iron chelating agent (desferrioxamine) \(^{(7,8)}\).
Other comments

The diagnosis of iron deficiency must be based on appropriate laboratory tests (i.e. serum ferritin, serum iron, transferrin saturation and hypochromic red cells).

Parenteral formulations available:

1. Iron sucrose (Venofer) contains 20 mg/mL elemental iron (100 mg/5 mL)
2. Iron polymaltose (Ferrosig/Ferrum H) contains 50 mg/mL elemental iron (100 mg/2 mL)
3. Ferric carboxymaltose (Ferinject) contains 50 mg/mL of elemental iron (500 mg/10 mL and 1,000 mg/20 mL) – not available through JHH Pharmacy for inpatients

These products are NOT interchangeable (2, 3).

Monitor for potentially fatal hypersensitivity reaction with IV administration: Shock, loss of consciousness, hypotension, dyspnoea and convulsions (2, 4).

For the management of complications:

• Adrenaline (epinephrine) and cardiopulmonary resuscitation (CPR) facilities must be available
• Consider the use of antihistamines for mild dermal infusion reactions
• Immediate review by a medical officer

Storage and Stability

Store at room temp (below 25°C). Do not freeze
Use immediately after opening the container or immediately after preparation of the diluted solution for IV infusion (3).

References

2. Venofer® product information. MIMS online Accessed 4/7/19
3. SHPA Australian Injectable Drugs Handbook, 7th Ed.

Groups consulted in development of this guideline

Pharmacy, Gastroenterology, Haematology/Oncology

Authorisation

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## GOVERNANCE

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<th>Enactment date</th>
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<tr>
<td>Expiry date: (24 months from date of original approval)</td>
<td>04/07/2021</td>
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<tr>
<td>Ratification date by JHH Quality Use of Medicines Committee</td>
<td>May 2019</td>
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<tr>
<td>Chairperson, JHH Quality Use of Medicines Committee</td>
<td>Signature ______________ Name ______________ Date ______</td>
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<tr>
<td>Ratification date at JHCH CQ&amp;PCC</td>
<td>June 2019</td>
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*Note Guideline must be distributed in a format which prevents modification eg. PDF file*

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<thead>
<tr>
<th>Location</th>
<th>John Hunter Children’s Hospital</th>
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<td>Guideline Number</td>
<td>JHCH 13.8</td>
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<tr>
<td>Version Number</td>
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