Iron deficiency anaemia

**Rationale for drug use**
Prevent or reverse complications of anaemia and iron deficiency, including lethargy, dyspnoea and decreased exercise capacity.

**Before starting treatment**
Established that anaemia is due to iron deficiency. Serum ferritin is the most specific test for evaluating iron stores. Be aware that a normal serum ferritin concentration may occur with iron deficiency in infection, inflammatory, malignant or hepatic disease and in the elderly, requiring assessment of other parameters, eg serum transferrin saturation.

Assess for possible causes:
- Blood loss (eg GI, heavy menstrual bleeding, dairy [eg milk, lentils, anthropogast], blood donation, bloodstream infection)
- Increased requirements (eg infants, adolescents, pregnancy, breastfeeding)
- Malabsorption (eg celiac disease, gastric surgery)
- Inadequate dietary iron.

**Diet**
Dietary changes alone will not be sufficient for treatment of iron deficiency anaemia. Give dietary advice as deficiency is a multifactorial problem. Encourage increased intake of haem iron (red meat, chicken, fish, poultry) haemosiderin iron (pumpkin and lentils, legumes, apples and vegetables) with vitamin C (c-skin, fresh, citrus, capsicum) to promote the absorption of non-haem iron. A patient information leaflet can be found at www.gp.org.au/resources/patient-handout-iron-deficiency.

**Treatment**
See also Table – Oral products for treatment of iron deficiency anaemia.
Oral iron is a first-line treatment for most patients. Consider parenteral iron for malabsorption, intolerance or if rapid iron replacement is needed (eg <4-6 weeks before elective surgery) or when oral treatment is not possible, not tolerated or not effective (eg haemolytic anaemia).

Blood transfusion may be necessary in severe anaemia (eg symptomatic despite iron treatment) or when it may destabilise cardiovascular disease. Iron treatment is still required to replenish iron stores.

**Table – Oral products for treatment of iron deficiency anaemia**

<table>
<thead>
<tr>
<th>Brand &amp; form (PHB)</th>
<th>Iron salt (other ingredient)</th>
<th>Elemental iron</th>
<th>Usual dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferrous fumarate 270 mg (folic acid 300 mcg)</td>
<td>ferrous fumarate 270 mg</td>
<td>67.4 mg</td>
<td>1-2 daily</td>
</tr>
<tr>
<td>Ferrous fumarate 310 mg</td>
<td>ferrous fumarate 310 mg</td>
<td>100 mg</td>
<td>1-2 daily</td>
</tr>
<tr>
<td>Ferrous fumarate 300 mg</td>
<td>ferrous fumarate 300 mg</td>
<td>65.7 mg</td>
<td>2-3 daily</td>
</tr>
<tr>
<td>Ferrous sulphate 325 mg (sucrose 100 mg)</td>
<td>ferrous sulphate 325 mg</td>
<td>105 mg</td>
<td>1-2 daily</td>
</tr>
<tr>
<td>Ferrous ascorbate controlled release tablet</td>
<td>ferrous sulphate 305 mg</td>
<td>105 mg</td>
<td>1-2 daily</td>
</tr>
<tr>
<td>Ferrous fumarate 30 mg/ml (oral liquid)</td>
<td>ferrous sulphate 30 mg/ml</td>
<td>6 mg/ml</td>
<td>adult: 15-30 ml; child: 0.5-1 ml/kg daily</td>
</tr>
<tr>
<td>Ferric gluconate controlled release tablet</td>
<td>ferric gluconate 200 mg</td>
<td>100 mg</td>
<td>1-2 daily</td>
</tr>
<tr>
<td>Ferric carboxymaltose 10 mg/ml (oral liquid)</td>
<td>ferric carboxymaltose 10 mg/ml</td>
<td>10 mg/ml</td>
<td>adult: 10-20 ml; child: 0.3-0.5 ml/kg daily</td>
</tr>
</tbody>
</table>

I use also: **Dissolve in Iron.**

**Special cases**

**Renal failure**
Give iron suppletion when anaemic, according to iron saturation and serum ferritin, on advice of a renal physician.

**Pregnancy**
Routine iron supplementation is not recommended. Give supplementation only in women with low-normal haemoglobin where investigation shows iron deficiency.

**Duration of treatment**
Continue oral treatment for at least 2 months (3-3 months in children) after the haemoglobin level has returned to normal in order to replenish iron stores. Avoid unnecessary long-term use of iron.

**Practice points**
- do not wait for investigations before starting iron; if needed, iron can be temporarily stopped for investigations such as cosmoacrosty
- expect haemoglobin to rise 20 g/l over 3-4 weeks
- monitor haemoglobin for response to treatment; if no response detected after 3-4 weeks, review the diagnosis and consider normocytosis or coexisting conditions, eg renal impairment, chronic inflammation, malabsorption, ongoing occult bleeding.
- specific advice may be required
- monitor complete blood count and serum ferritin 1-2 weeks after treatment is ceased, then every 3 months for 1 year
- iron absorption (from the diet and supplements) may be reduced by high intake of phosphates (eg whole grain cereals), tea, coffee or calcium. However, evidence regarding foods reducing iron absorption is poor and conflicting.

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