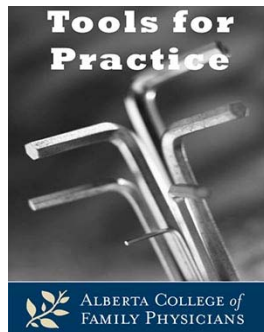


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July 6, 2010



Iron Deficiency Anemia in the Elderly: How much Iron is enough?

Clinical Question:

**In elderly adults with iron deficiency anemia (IDA),
what is the appropriate dose of iron?**

Evidence:

A Randomized Controlled Trial (RCT) addresses this question.

- 90 anemic patients (mean age 85, 59% female) randomized to 15mg, 50mg or 150mg of elemental iron per day.¹
 - o At 2 months, there was no difference among the groups in hemoglobin or serum ferritin
 - Hemoglobin increased 14 g/dL in all three groups
 - o Adverse events were significantly more common at higher doses
 - Number needed to harm (NNH) for 150mg versus 15mg
 - Abdominal cramps: NNH 2
 - Nausea/vomiting: NNH 2
 - Constipation: NNH 5
 - Drop-out due to adverse events: NNH 5

Context:

- IDA is common in the elderly²
 - o >10% have IDA at age ≥ 65 and >20% have IDA at age ≥ 85
- IDA in older patients requires work-up for potential causes, including gastrointestinal malignancy³
- In the very elderly (age 85), IDA carries an increased risk of mortality, hazards ratio 1.41 (1.13 to 1.76), in addition to the condition causing anemia⁴
- In pregnant^{5,6} and non-pregnant young women,⁷ recommendations are difficult
 - o Low dose reduced adverse events⁶ but did not improve ferritin^{5,7} and hemoglobin⁶ as much as high dose
- Iron is commercially available in 300mg tablets. For dose conversion:
 - o Ferrous fumarate 300mg = 99mg elemental iron
 - o Ferrous sulfate 300mg = 60 mg elemental iron
 - o Ferrous gluconate 300mg = 35 mg elemental iron
- For dosing to 15mg of elemental iron per day consider:
 - o $\frac{1}{2}$ of ferrous gluconate 300mg tablet (or 1 every other day)
 - o 2.5ml of Fer-In-Sol syrup a day or 1 dropper (1 mL) of the Fer-In-Sol drops daily.
- Taking iron on an empty stomach improves absorption⁵.

Bottom-line: In elderly patients with iron deficiency anemia, low doses of iron raise hemoglobin similar to higher doses with considerably less adverse events in most patients. Options for dosing include ½ of a 300mg ferrous gluconate per day or 2.5ml of Fer-In-Sol syrup a day. Clinicians should work-up the cause of anemia as appropriate.

Authors: G Michael Allan MD CCFP & Candra Cotton BSc Pharm

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Tools for Practice is a biweekly article summarizing medical evidence with a focus on topical issues and practice modifying information. It is coordinated by G. Michael Allan, MD, CCFP and the content is written by practising family physicians. Archived articles are available on the ACFP website.

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