

Iron deficiency anemia in the elderly

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Clinical question

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

Bottom line

In elderly patients with IDA, low doses of iron lead to similar increases in hemoglobin as are achieved with higher doses but cause considerably fewer adverse events in most patients. Options for dosing include half of a 300-mg ferrous gluconate tablet per day or 2.5 mL of ferrous sulfate syrup a day. Clinicians should work up the cause of anemia, as appropriate.

Evidence

One RCT addresses this question.¹

- In total, 90 patients with anemia (mean age 85 years, 59% women) were randomized to receive 15 mg, 50 mg, or 150 mg of elemental iron per day.
 - At 2 months, there were no differences among the groups in hemoglobin or serum ferritin levels.
 - Hemoglobin increased by 14 g/L in all 3 groups.
 - Adverse events were significantly more common at higher doses ($P < .05$).
- Number needed to harm (NNH) for 150 mg versus 15 mg: abdominal cramps, NNH=2; nausea or vomiting, NNH=2; constipation, NNH=5; and dropout due to adverse events, NNH=5.

Context

- Iron deficiency anemia is common in the elderly.²
 - More than 10% have IDA at age 65 and older, and more than 20% have IDA at age 85 and older.
- In older patients, IDA requires workup for potential causes, including gastrointestinal malignancy.³
- In the very elderly (age 85 and older), IDA carries an increased risk of mortality (hazard ratio 1.41 [95% CI 1.13 to 1.76]) in addition to the condition causing anemia.⁴
- Iron is commercially available in 300-mg tablets. For dose conversion:
 - 300 mg of ferrous fumarate equals 100 mg of elemental iron⁵;
 - 300 mg of ferrous sulfate equals 60 mg of elemental iron⁵; and
 - 300 mg of ferrous gluconate equals 35 mg of elemental iron.⁵
- For dosing to 15 mg of elemental iron per day, consider:
 - half of a 300-mg ferrous gluconate tablet (or 1 every other day); or

-doses of 2.5 mL of ferrous sulfate syrup per day or 1 dropper (1 mL) of ferrous sulfate drops per day.

Implementation

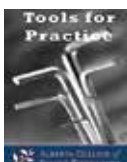
The price of different oral iron formulations varies; they range from about \$3 to \$30 per month, with polysaccharide-iron complexes and liquid formulations being the most expensive. Taking iron on an empty stomach improves absorption.⁶ Vitamin C might increase the absorption of dietary iron by about 10%.⁷ Conversely, calcium might decrease iron absorption; however, the effects on clinical outcomes are unknown.⁸ If both are required, it might help to take iron and calcium hours apart. 🌿

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