

## Iron Deficiency

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### Objective

Monitor for and manage iron deficiency.

### Patient Population

Adult patients (>18 years) with a known diagnosis of IBD.

### Highlight Box

Parenteral iron is recommended over oral iron; however, both oral and parenteral iron are effective in correcting iron deficiency anemia. The decision of the optimal form of iron for each individual patient, remains at the discretion of the prescriber, based on the patients' characteristics and needs.

### Introduction

This care protocol provides a general guideline for monitoring and managing iron deficiency in adults with inflammatory bowel disease. The availability of the listed options for iron replacement may vary across organizations.

### IBD Provider

1. Review CBC (hemoglobin, MCV), Fe, Ferritin, Transferrin, TIBC.
2. Confirm iron deficiency (Ferritin <20 g/L or iron saturations <15%) or if active disease, Ferritin < 100 g/L, Iron saturations <15%.
3. Review hemoglobin
  - a. If Hb <70 g/L → consider urgent PRBC transfusion if symptomatic or urgent iron infusion (if asymptomatic) and repeat Hb in 2 weeks
  - b. If Hb = 70-100g/L → iron infusion and repeat Hb in 2 months
  - c. If Hb >100g/L → oral iron supplements, if intolerant, organize iron infusion, repeat Hb, Ferritin, Fe, Iron studies, CRP in 3 months
4. See Table 1 for Iron replacement options.
5. Arrange for IV iron replacement per protocol.
6. Inform the family physician of the plan for iron replacement.

**Table 1:** Options for Iron Replacement

Iron formulation*	Route	Common Dose	Elemental Iron Equivalence
Ferrous Gluconate	Oral	300mg/tablet	35mg
Ferrous Sulfate	Oral	300mg/tablet	60mg
Ferrous Fumerate	Oral	300mg/tablet	100mg
Iron Polysaccharide (Feramax)	Oral	150mg/tablet	150mg
Heme iron polypeptide (Proferrin)	Oral	398mg/tablet	11mg
Iron Sucrose (Venofer)	Intravenous	Variable based on patient requirement (100-300mg/dose)	20mg/ml
Sodium Ferric Gluconate (Ferlecit)	Intravenous	125mg	125mg
Iron Isomaltoside (Monoferric)	Intravenous	Variable based on patient requirement#	100mg/ml

\*This is not a comprehensive list of all iron products available

#Simplified dosing table for Iron isomaltoside (Maximum single dose is 1.5g or 20mg/kg, whichever is less)

Hemoglobin (g/L)	Weight <50 kg	Weight 50-<70kg	Weight ≥70kg
≥ 100 g/L	500mg	1g	1.5g
< 100 g/L	500mg	1.5g	2g

## References

Lim, W., Afif, W., Knowles, S., Lim, G., Lin, Y., Mothersill, C., Nistor, I., Rehman, F., Song, C. and Xenodemetropoulos, T. (2019), Canadian expert consensus: management of hypersensitivity reactions to intravenous iron in adults. *Vox Sang*, 114: 363- 373. <https://doi.org/10.1111/vox.12773>

Abhyankar, A., & Moss, A. C. (2015). Iron Replacement in Patients with Inflammatory Bowel Disease: A Systematic Review and Meta-analysis. *Inflammatory bowel diseases*, 21(8), 1976–1981. <https://doi.org/10.1097/MIB.0000000000000386>

Macdougall, I. C., Comin-Colet, J., Breyman, C., Spahn, D. R., & Koutroubakis, I. E. (2020). Iron Sucrose: A Wealth of Experience in Treating Iron Deficiency. *Advances in therapy*, 37(5), 1960–2002. <https://doi.org/10.1007/s12325-020-01323-z>