

Appendix B: Iron Preparations

Route	Iron salt	Formulation* (elemental iron)	Adult dose†	Incidence of side effects‡	Approximate medication cost for adults / month**
Oral	Ferrous sulfate	Tablets 300 mg (60 mg)	1 tablet 3-times a day	+++	\$2-3
		Sustained release tablets 160 mg (50 mg)	1-4 tablets once a day	+	\$25 (at max dose)
		Suspension 75 mg/mL (15 mg/mL)#	4 mL 3-times daily	++	\$100
		Syrup 30 mg/mL (6 mg/mL)#	10 mL 3-times daily	++	\$50
	Ferrous gluconate	Tablet 300 mg (35 mg)	1-3 tablets 2-3 times a day	++	\$3-5
	Ferrous fumarate	Tablet 300 mg (90mg)	1 tablet 2-times a day	++	\$2-20
		Suspension 300 mg/5mL (20 mg/mL)#	3 mL 3-times daily	++	\$35
Polysaccharide Iron	Polysaccharide iron capsules 150 mg (150 mg)	1 capsule once a day	+	\$24	
Intravenous	Iron sucrose	Suspension (20 mg elemental iron/mL)	Multi-dose infusions to a total 1000 mg elemental iron##	+	\$375 / 1000 mg (full course) ^Δ + facility cost
	Iron dextran complex ^Ω	Suspension (50 mg elemental iron /mL)	Usually 1000 mg elemental iron as a single infusion; depends on body wt and Hb; test dose required	+++	\$290/ 1000 mg (full course) ^α + facility cost

* **Iron absorption may be decreased** by antacids or supplements containing aluminum, manganese, calcium, zinc, proton pump inhibitors, and histamine₂ receptor antagonists. **Iron may decrease the absorption** of bisphosphonates, tetracycline antibiotics, quinolone antibiotics, levodopa, methyldopa, levothyroxine and penicillamine. **(Space administration apart by at least 2 hours).**

† Pediatric dose 3-6 mg/kg **elemental iron** per day.

‡ **Oral preparations:** Nausea, vomiting, dyspepsia, constipation, diarrhea, dark stools, bloating. **IV preparations:** Side effects of intravenous iron preparations are less common with iron sucrose than iron dextran. These include arthralgia, myalgia, pyrexia, flushing, and hypotension. Serious hypersensitivity is observed in approximately 1 in 200 with iron dextran (low molecular weight dextran) and 1 in 50,000 with iron sucrose.¹

** Pediatric cost depends on the dosage. Pricing based on PharmaCare database September 2009. PharmaCare Coverage:

^Δ= No coverage, ^α = Regular Coverage.

Liquid iron preparations could stain teeth; prevent by mixing the dose with water or fruit juice, or drinking through a straw or using a dropper to the back of the mouth and then rinsing the mouth thoroughly with juice or water.

Iron sucrose: 100-300 mg (elemental iron) IV infusion (maximum rate of 100 mg/hr, 300 mg maximum single dose) every week for a cumulative dose of 1000 mg. No test dose is required for iron sucrose. Iron sucrose may be used in patients sensitive to iron dextran.¹

^Ω **Iron dextran complex** - A test dose of 25 mg elemental iron (0.5 mL) is required before administering the first therapeutic dose. If no reaction after 1 hour, the remainder of the dose may then be given over 4 to 6 hours, **OR** the rate of the infusion may be increased progressively to 3-4 mL/min.

Please review product monographs and regularly review current listings of Health Canada advisories, warnings and recalls at: <http://www.hc-sc.gc.ca/index-eng.php>

References:

¹ Vancouver Coastal Health Pharmaceutical Sciences Clinical Services Unit. Iron Dextran and Iron Sucrose. Vancouver Coastal Health Parenteral Drug Manual. Vancouver British Columbia. Vancouver Coastal Health – 2008.

ⁱⁱ Silverstein SB. Intravenous Iron Therapy: A Summary of Treatment Options and Review of Guidelines. J Pharm Pract. 2008;21:431-443.