

Pharmacy Management Drug Policy

SUBJECT: Intravenous Iron Replacement Products

POLICY NUMBER: PHARMACY-116

EFFECTIVE DATE: 02/2024

LAST REVIEW DATE: 02/01/2024

If the member's subscriber contract excludes coverage for a specific service or prescription drug, it is not covered under that contract. In such cases, medical or drug policy criteria are not applied. This drug policy applies to the following line/s of business:

Policy Application

Category:	<input checked="" type="checkbox"/> Commercial Group (e.g., EPO, HMO, POS, PPO)	<input checked="" type="checkbox"/> Medicare Advantage
	<input checked="" type="checkbox"/> On Exchange Qualified Health Plans (QHP)	<input type="checkbox"/> Medicare Part D
	<input checked="" type="checkbox"/> Off Exchange Direct Pay	<input checked="" type="checkbox"/> Essential Plan (EP)
	<input checked="" type="checkbox"/> Medicaid & Health and Recovery Plans (MMC/HARP)	<input checked="" type="checkbox"/> Child Health Plus (CHP)
	<input type="checkbox"/> Federal Employee Program (FEP)	<input type="checkbox"/> Ancillary Services
	<input checked="" type="checkbox"/> Dual Eligible Special Needs Plan (D-SNP)	

DESCRIPTION:

Iron deficiency (ID) affects more than 2 billion people worldwide and is estimated to affect approximately 8 to 9 million people in the United States.¹ It is the most common nutritional disorder worldwide, accounting for approximately one-half of all anemia cases.² Iron deficiency anemia (IDA) occurs when iron deficiency becomes severe enough to reduce erythropoiesis. The causes of iron deficiency anemia are numerous, including gastrointestinal bleeding or other blood loss, chronic kidney disease, celiac disease, multiple blood donations, and cancer or chemotherapy-related etiologies. A diagnosis of iron deficiency anemia requires laboratory-confirmed evidence of anemia, defined as a hemoglobin level two standard deviations below normal for age and sex, as well as evidence of low iron stores.² Serum ferritin reflects iron stores and is the most accurate test to diagnose iron deficiency anemia (ferritin < 30 ng/mL).² However, as ferritin is an acute phase reactant, it may be elevated in patients with malignancy, chronic inflammation, or infection. Therefore, a normal ferritin concentration alone does not necessarily exclude iron deficiency.¹³ Additional values consistent with iron deficiency include a low serum iron level, low transferrin saturation, and a high total iron-binding capacity.² Identifying the underlying etiology and administering the appropriate therapy, in addition to iron replacement therapy, are keys to the evaluation and management of this condition.²

Oral iron preparations (e.g., ferrous sulfate, ferrous gluconate, ferrous fumarate) are usually first line treatment for iron replacement. Most patients are treated with oral iron preparations because they are effective, readily available, inexpensive, and safe.⁶ Parenteral iron therapy is recommended in patients who cannot tolerate or absorb oral preparations, such as those who have undergone bariatric or other GI surgery. The most common indications for intravenous therapy are gastrointestinal side effects, worsening symptoms of inflammatory bowel disease, unresolved bleeding, and insufficient absorption in patients with celiac disease.² Intravenous iron is essential in the management of anemia in patients with chronic kidney disease who are receiving dialysis and treatment with erythropoiesis-stimulating agents.³ The addition of iron supplementation may eliminate or delay the need for these agents in some patients with chronic kidney disease who are not receiving dialysis.^{4,5}

The Kidney Disease Improving Global Outcomes practice guidelines for anemia in chronic kidney disease (KDIGO; 2012) include recommendations for the use of IV iron supplements in patients with chronic kidney disease (CKD).¹¹ For adult CKD patients with anemia not on iron or erythroid stimulating agent (ESA) therapy, a trial of IV iron is recommended if an increase in hemoglobin (Hb) concentration without starting ESA treatment is desired and transferrin saturation (TSAT) is $\leq 30\%$ and ferritin is ≤ 500 ng/mL. For adult CKD patients on ESA therapy who are not receiving iron supplementation, a trial of IV iron is recommended if an increase in Hb concentration or a decrease in ESA dose is desired and TSAT is $\leq 30\%$ and ferritin is ≤ 500 ng/mL. For adult non-dialysis CKD patients, a one to three month trial of oral iron may be tried initially,

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but usually cannot maintain adequate iron stores. For all pediatric CKD patients with anemia not on iron or ESA therapy, oral iron (or IV iron for patients receiving hemodialysis) is recommended when TSAT is $\leq 20\%$ and ferritin is ≤ 100 ng/mL. For all pediatric CKD patients on ESA therapy who are not receiving iron supplementation, oral iron (or IV iron for patients receiving hemodialysis) is recommended to maintain TSAT $> 20\%$ and ferritin > 100 ng/mL.

The National Comprehensive Cancer Network Drugs and Biologics Compendium (NCCN,2023) recommend consideration for the use of IV iron supplementation for management of cancer- and chemotherapy-induced anemia. IV iron therapy is considered an option for patients with absolute iron deficiency (ferritin < 30 ng/mL and TSAT $< 20\%$), functional iron deficiency in patients receiving ESAs (ferritin 30-500 ng/mL and TSAT $< 50\%$), and possible functional iron deficiency (ferritin > 500 -800 ng/mL and TSAT $< 50\%$).¹⁵

According to the 2017 focused update of the 2013 American College of Cardiology Foundation/American Heart Association guideline for the management of heart failure, anemia is independently associated with heart failure disease severity, and iron deficiency appears to be uniquely associated with reduced exercise capacity.¹⁶ In patients with New York Heart Association class II or III heart failure and iron deficiency (ferritin < 100 ng/mL or 100 to 300 ng/mL if TSAT $< 20\%$), IV iron replacement may be reasonable to improve function status and quality of life. Benefits noted with IV iron therapy included improvement in the six-minute walk test, fatigue, and quality of life score over time.¹⁷

Multiple parenteral iron replacement products are currently available, including ferric carboxymaltose, ferric gluconate, ferumoxytol, iron sucrose, ferric derisomaltose, and low molecular weight iron dextran. After injection, the different preparations all share a similar fate. The iron complexes mix with plasma and are phagocytosed within the reticuloendothelial system, wherein the carbohydrate shell is degraded and iron is stored as ferritin or transported out of the cell, bound to transferrin, which delivers iron to its destiny.^{8,18} All of these formulations are equally effective in treating iron deficiency and have a similar safety profile.^{6,9,10} Hypersensitivity reactions have been reported with intravenous iron. Practical recommendations for minimizing risk include a slow infusion rate, careful patient observation, and administration by trained healthcare personnel in an environment with access to resuscitation facilities.^{1,7} Factors which may influence which product is selected include patient diagnosis, prior treatments, length of infusion, and the number of infusions required to complete the full course of treatment.

Feraheme (ferumoxytol injection)

Feraheme is indicated for the treatment of iron deficiency anemia in adult patients who have intolerance to oral iron or have had unsatisfactory response to oral iron, or for patients who have chronic kidney disease. The recommended dose of Feraheme is an initial 510 mg dose followed by a second 510 mg dose 3 to 8 days later. Feraheme is administered as an IV infusion in 50-200 mL 0.9% sodium chloride injection, or 5% dextrose injection, over at least 15 minutes. Due to the risk of clinically significant hypotension, Feraheme should be administered to patients while in a reclined or semi-reclined position.

Ferrlecit (sodium ferric gluconate complex injection)

Ferrlecit is an iron replacement product for the treatment of iron deficiency anemia in adult and pediatric patients aged 6 years and older with chronic kidney disease receiving hemodialysis who are receiving supplemental epoetin therapy. The recommended adult dosage of Ferrlecit is 10 mL (125 mg of elemental iron) diluted in 100 mL of 0.9% sodium chloride administered by IV infusion over one hour per dialysis session or undiluted as a slow intravenous injection (at a rate of up to 12.5 mg/min) per dialysis session. For repletion treatment most patients require a cumulative dose of 1000 mg of elemental iron administered over 8 dialysis sessions. The recommended pediatric dosage of Ferrlecit is 0.12 mL/kg (1.5 mg/kg of elemental iron) diluted in 25 mL 0.9% sodium chloride and administered by IV infusion over 1 hour per dialysis session. The maximum dosage should not exceed 125 mg per dose.

Infed (iron dextran injection)

Infed is an iron replacement product indicated for the treatment of adult and pediatric patients of age 4 months and older with documented iron deficiency who have intolerance to oral iron or an unsatisfactory

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response to oral iron. Anaphylactic-type reactions have been reported following the parenteral administration of iron dextran injection and a test dose of Infed should be administered to check for hypersensitivity reactions prior to administration of the therapeutic dose. The recommended dosage of Infed is individualized based on a calculation using the patients lean body weight (or actual body weight for those 5 to 15 kg), observed hemoglobin level, and desired hemoglobin. A separate calculation is used for the recommended dosage of iron replacement due to blood loss. Daily doses of Infed should not exceed 2 mL, which may necessitate infusions over multiple days to administer the required therapeutic dose.

Injectafer (ferric carboxymaltose injection)

Injectafer is an iron replacement product indicated for the treatment of iron deficiency anemia in adult and pediatric patients 1 year of age and older who have either intolerance or an unsatisfactory response to oral iron and for adult patients who have non-dialysis dependent chronic kidney disease. Injectafer is also indicated for the treatment of iron deficiency in adult patients with heart failure and New York Heart Association class II/III to improve exercise capacity. The recommended dosage of Injectafer for the treatment of iron deficiency anemia is weight based. For patients weighing 50 kg or more, the recommended dosage is 750 mg administered intravenously in two doses separated by at least 7 days for a cumulative dose of 1,500 mg of iron per course. Alternatively, Injectafer 15 mg/kg body weight up to a maximum of 1,000 mg IV may be administered as a single-dose per course. For patients weighing less than 50 kg, the recommended dosage of Injectafer is 15 mg/kg body weight administered intravenously in two doses separated by at least 7 days per course. The recommended dosage of Injectafer for the treatment of iron deficiency with heart failure is based upon patients' weight and current hemoglobin level. Injectafer should be administered as an undiluted slow intravenous push or by infusion.

Monoferic (ferric derisomaltose injection)

Monoferic is an iron replacement product indicated for the treatment of iron deficiency anemia in adult patients who have intolerance to oral iron or have had unsatisfactory response to oral iron or who have non-hemodialysis dependent chronic kidney disease. The recommended dosage of Monoferic for patients weighing 50 kg or more is 1,000 mg by IV infusion over at least 20 minutes as a single dose. For patients weighing less than 50 kg, the recommended Monoferic dosage is 20 mg/kg actual body weight by IV infusion over at least 20 minutes as a single dose.

Venofer (iron sucrose injection)

Venofer is an iron replacement product indicated for the treatment of iron deficiency anemia in patients with chronic kidney disease. The dose and frequency of administration varies for patients who are dialysis and non-dialysis dependent. For adult patients with hemodialysis dependent-chronic kidney disease (HDD-CKD), the recommended Venofer dose is 100 mg undiluted as a slow IV injection over 2 to 5 minutes, or as an infusion of 100 mg diluted in a maximum of 100 mL 0.9% NaCl over a period of at least 15 minutes, per consecutive hemodialysis session. The usual treatment course of Venofer is 1000mg. For adult patients with non-dialysis dependent-chronic kidney disease (NDD-CKD), the Venofer dose is 200 mg undiluted as a slow IV injection over 2 to 5 minutes, or as an infusion of 200 mg in a maximum of 100 mL of 0.9 NaCl over a period of 15 minutes. Venofer should be administered on 5 different occasions over a 14-day period. For adult patients with peritoneal dialysis dependent-chronic kidney disease (PDD-CKD), the dosage of Venofer should be administered in 3 divided doses, given by slow IV infusion within a 28-day period. Patients should receive 2 infusions of 300 mg over 1.5 hours 14 days apart followed by one 400 mg infusion over 2.5 hours 14 days later. Venofer is indicated for iron maintenance treatment in pediatric patients 2 years of age and older with HDD-CKD. Venofer should be administered at a dose of 0.5 mg/kg, not to exceed 100 mg per dose, every 2 weeks for 12 weeks given undiluted by slow IV injection over 5 minutes or diluted in 0.9% NaCl at a concentration of 1 to 2 mg/mL and administered over 5 to 60 minutes. For pediatric patients 2 years of age and older with NDD-CKD or PDD-CKD who are on erythropoietin therapy, Venofer is administer for iron maintenance therapy at a dose of 0.5mg/kg, not to exceed 100 mg per dose, every 4 weeks for 12 weeks. Venofer should be administer undiluted as a slow IV injection over 5 minutes or diluted in 0.9% NaCl at a concentration of 1 to 2 mg/mL and administered over 5 to 60 minutes.

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POLICY:

Based upon our assessment, the Health Plan considers the following medications medically appropriate and covered without prior authorization.

Drug	How Supplied
Feraheme® (ferumoxytol injection), for intravenous use	Single-Dose vials <ul style="list-style-type: none"> • 510 mg/17 mL
Ferrlecit® (sodium ferric gluconate complex in sucrose injection), for intravenous use	Single-dose vials <ul style="list-style-type: none"> • 62.5 mg/5 mL
Infed® (iron dextran injection), for intravenous use	Single-dose vials <ul style="list-style-type: none"> • 100 mg/2 mL
Injectafer® (ferric carboxymaltose injection), for intravenous use	Single-dose vials <ul style="list-style-type: none"> • 100 mg/2 mL • 750 mg/15 mL • 1,000 mg/20 mL
Monoferic® (ferric derisomaltose injection), for intravenous use	Single-dose vials <ul style="list-style-type: none"> • 100 mg/mL • 500 mg/5 mL • 1,000 mg/10 mL
Venofer® (iron sucrose injection), for intravenous use	Single-dose vials <ul style="list-style-type: none"> • 50 mg/2.5 mL • 100 mg/5 mL • 200 mg/10 mL

POLICY GUIDELINES:

1. Not all contracts cover all Medical Infusible drugs. Refer to specific contract/benefit plan language for exclusions of Injectable Medications.
2. Feraheme, Ferrlecit, Infed, Injectafer, Monoferic, and Venofer are administered intravenously and are covered under the medical benefit.

CODES:

Eligibility for reimbursement is based upon the benefits set forth in the member's subscriber contract.

CODES MAY NOT BE COVERED UNDER ALL CIRCUMSTANCES. PLEASE READ THE POLICY AND GUIDELINES STATEMENTS CAREFULLY.

Codes may not be all inclusive as the AMA and CMS code updates may occur more frequently than policy updates.

Code Key:

Experimental/Investigational = (E/I), Not medically necessary/ appropriate = (NMN).

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HCPCS:

Trade Name	Chemical Name	HCPCS codes
Feraheme	Injection, ferumoxytol	Q0138 – for non-ESRD use Q0139 – for ESRD on dialysis
Ferrlecit	Injection, sodium ferric gluconate	J2916
Infed	Injection, iron dextran	J1750
Injectafer	Injection, ferric carboxymaltose	J1439
Monoferic	Injection, ferric derisomaltose	J1437
Venofer	Injection, iron sucrose	J1756

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UPDATES:

Date	Revision
02/01/2024	Policy Implemented

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22. Injectafer [package insert]. Shirley, NY: American Regent, Inc.; Revised May 2023
23. Monoferric [package insert]. Morristown, NJ: Pharmacosmos Therapeutics Inc.; Revised February 2022
24. Venofer [package insert]. Shorley, NY: American Regent, Inc.; Revised June 2022