STATE OF IOWA DEPARTMENT OF
Health AND Human
SERVICES

Serum Iron Studies
LAB-013

Iowa Medicaid Program:	Claims Pre-Pay	**Effective Date:**	6/1/2024
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Reviewed By:	Medicaid Medical Director	**Next Rev Date:**	7/18/2025
Approved By:	Medicaid Clinical Advisory Committee	**Approved Date:**	7/19/2024

Descriptive Narrative

Iron deficiency is the most commonly known form of nutritional deficiency. Its prevalence is highest among young children and women of childbearing age, particularly pregnant women. In children, iron deficiency may cause developmental delays and behavioral disturbances, and in pregnant women, it increases the risk for a preterm delivery and delivering a low-birthweight baby.

In the human body, iron is present in all cells and has several vital functions such as:

- A carrier of oxygen to the tissues from the lungs in the form of hemoglobin, as a facilitator of oxygen use and storage in the muscles as myoglobin;
- A transport medium for electrons within the cells in the form of cytochromes; and
- An integral part of enzyme reactions in various tissues.

Too little iron can interfere with these vital functions and lead to morbidity and mortality. Regulation of iron balance occurs mainly in the gastrointestinal tract through absorption. When the absorptive mechanism is operating normally, a person maintains functional iron and tends to establish iron stores. The capacity of the body to absorb iron from the diet depends on the amount of iron in the body, the rate of red blood cell production, the amount and kind of iron in the diet, and the presence of absorption enhancers and inhibitors in the diet.

Iron deficiency represents a spectrum ranging from iron depletion, which causes no physiological impairments, to iron-deficiency anemia, which affects the functioning of several organ systems. In **iron depletion**, the amount of stored iron (e.g., as measured by serum ferritin concentration) is reduced but the amount of functional iron may not be affected. Persons who have iron depletion have no iron stores to mobilize if the body requires more iron. In **iron-deficient erythropoiesis**, stored iron is depleted and transport iron (e.g., as measured by transferrin saturation) is reduced further; the amount of iron absorbed is not sufficient to replace the amount lost or to provide the amount needed for growth and function. In this stage, the shortage of iron limits red blood cell production. In **iron-deficiency anemia**, the most severe form of iron deficiency, the shortage of iron leads to underproduction of iron-containing functional compounds, including hemoglobin. The red blood cells of people who have iron-deficiency anemia are microcytic and hypochromic.

Iron status can be assessed through several laboratory tests. Because each test assesses a different aspect of iron metabolism, results of one test may not always agree with results of other tests. Hematological tests based on characteristics of red blood cells (i.e., Hb concentration, hematocrit, mean cell volume, and red blood cell distribution width) are generally more available and less expensive than are biochemical tests. Biochemical tests (i.e., erythrocyte protoporphyrin concentration, serum ferritin concentration, and transferrin saturation), however, detect earlier changes in iron status.

Criteria

Serum iron testing is considered medically necessary for **ANY** of the following:

1. Evaluation of suspected iron deficiency in members who meet **ANY** of the following:
   a. Abnormal blood counts consistent with iron deficiency including, but not limited to, the following;
      1) Decreased mean corpuscular volume (MCV); **OR**
      2) Decreased hemoglobin/hematocrit when the MCV is low or normal; **OR**
      3) Increased red cell distribution width (RDW) and low or normal MCV; **OR**
   b. Evidence of acute or chronic blood loss including, but not limited to, the following:
      1) Gastrointestinal blood loss; **OR**
      2) Hematuria; **OR**
      3) Menorrhagia; **OR**
   c. Anemia associated with abnormal appetite, malnutrition, or malabsorption; **OR**
   d. Malignancy, chronic inflammation, or infection associated with iron deficiency; **OR**
   e. A lack of response to iron replacement therapy; **OR**
   f. Symptoms or clinical findings associated with iron deficiency, such as pica or restless legs syndrome; **OR**
   g. Evaluation of iron status following treatment for other nutritional deficiency anemias such as vitamin B12 or folate deficiency, (iron deficiency may not be revealed until the presenting nutritional deficiency has been treated); **OR**
2. Evaluation of suspected iron overload in members who meet **ANY** of the following:
   a. Diagnosis of a condition associated with iron overload, such as hemochromatosis; **OR**
   b. Symptoms or clinical findings associated with iron overload, such as hyperpigmentation of the skin; **OR**
3. Evaluation of toxic effects of iron and other heavy metals after exposure or for metabolic causes; **OR**
4. Members with chronic kidney disease who have anemia or who are receiving hemodialysis or an erythropoiesis-stimulating agent.

Not Medically Necessary

Serum iron studies are not medically necessary when:

1. None of the medical necessary indications above have been met or no medical history of iron dysregulation; **OR**
2. The results will not impact, direct the treatment of, or manage the disease process; **OR**
3. A normal serum ferritin level is recorded and there are no signs or symptoms of an iron imbalance.

Concurrent assessment of transferrin and TIBC is not medically necessary for any indication.

Coding

The following list(s) of codes are provided for reference purposes only and may not be all inclusive. The inclusion of a code does not imply any right to reimbursement or guarantee claim payment, nor does the exclusion of a code imply that its association to the HCPCS/CPT code is inappropriate.

HCPCS	Description
82728	Ferritin.
83540	Iron.
83550	Iron binding capacity.
84466	Transferrin.

ICD-10	Description
A01.00-A02.9	Typhoid fever, other Salmonella infections.
A04.0-A04.9	Other bacterial intestinal infections.
A06.0-A06.9	Amebiasis.
A07.0-A07.9	Other protozoal intestinal diseases.
A08.0-A08.8	Viral and other specified intestinal infections.
A09	Infectious gastroenteritis and colitis, unspecified.
A15.0	Tuberculosis of lung.
A18.01-A18.09	Tuberculosis of bones and joints.
A18.11-A18.13	Tuberculosis of kidney, ureter, bladder, other urinary.
A18.31-A18.39	Tuberculosis of intestines, peritoneum and mesenteric glands.
A18.83-A18.84	Tuberculosis of other specified organs.
B15.0-B19.9	Viral hepatitis.
B20	Human Immunodeficiency virus (HIV) disease.
B25.1	Cytomegalovirus hepatitis.
B52.0	Plasmodium malariae malaria with nephropathy.
C00.0-C14.8	Malignant neoplasms of lip, oral cavity and pharynx.
C15.3-C26.9	Malignant neoplasms of digestive organs.
C30.0-C39.9	Malignant neoplasms of respiratory and intrathoracic organs.
C40.00-C41.9	Malignant neoplasms of bone and articular cartilage.
C43.0-C44.99	Melanoma and other malignant neoplasms of skin.
C45.0-C49.A9	Malignant neoplasms of mesothelial and soft tissue.
C4A.0-C4A.9	Merkel cell carcinoma.
C50.011-C50.929	Malignant neoplasm of breast.

ICD-10	Description
C51.0-C58	Malignant neoplasms of female genital organs.
C60.0-C63.9	Malignant neoplasms of male genital organs.
C64.1-C68.9	Malignant neoplasms of urinary tract.
C69.00-C72.9	Malignant neoplasms of eye, brain and other parts of central nervous system.
C73-C75.9	Malignant neoplasms of thyroid and other endocrine glands.
C76.0-C79.9	Malignant neoplasms of ill-defined, other secondary and unspecified sites.
C7A.00-C7A.8	Malignant neuroendocrine tumors.
C7B.00-C7B.8	Secondary neuroendocrine tumors.
C80.0-C80.2	Malignant neoplasm without specification of site.
C81.00-C96.9	Malignant neoplasms of lymphoid, hematopoietic and related tissue.
D00.00-D09.9	In situ neoplasms.
D10.0-D36.9	Benign neoplasms, except benign neuroendocrine tumors.
D37.01-D48.9	Neoplasms of uncertain behavior, polycythemia vera and myelodysplastic syndrome.
D49.0-D49.9	Neoplasms of unspecified behavior.
D50.0-D53.9	Nutritional anemias.
D56.0-D56.9	Thalassemia.
D57.00-D57.819	Sickle-cell disorders.
D61.9	Aplastic anemia, unspecified
D62	Acute posthemorrhagic anemia.
D63.0-D63.8	Anemia in chronic diseases classified elsewhere.
D64.0-D64.9	Other anemias.
D65-D69.9	Coagulation defects, purpura and other hemorrhagic conditions.
D68.61	Antiphospholipid syndrome.
D75.839	Thrombocytosis, unspecified.
D76.1	Hemophagocytic lymphohistiocytosis.
D76.2	Hemophagocytic syndrome, infection-associated.
E08.00-E13.9	Diabetes mellitus.
E23.0-E23.1	Hypopituitarism.
E23.6	Other disorders of pituitary gland.
E24.1	Nelson's syndrome.
E28.310-E28.39	Primary ovarian failure.
E29.1	Testicular hypofunction.
E40-E46	Malnutrition.
E61.1	Iron deficiency.
E64.0	Sequelae of protein-calorie malnutrition.
E75.26	Sulfatase deficiency.
E79.0	Hyperuricemia without signs of inflammatory arthritis and tophaceous disease.
E80.0-E80.29	Porphyria.
E83.10-E83.19	Disorders of iron metabolism.
E88.02	Plasminogen deficiency.
E89.3	Postprocedural hypopituitarism.
F45.8	Other somatoform disorders.
F50.00-F50.9	Eating disorders.
F98.21-F98.29	Other feeding disorders of infancy and childhood.
F98.3	Pica of infancy and childhood.
G93.3	Postviral and related fatigue syndromes.
I12.0	Hypertensive chronic kidney disease with stage 5 chronic kidney disease or end stage renal disease.
I13.11	Hypertensive heart and chronic kidney disease without heart failure, with stage 5 chronic kidney disease, or end stage renal disease.
I13.2	Hypertensive heart and chronic kidney disease with heart failure and with stage 5 chronic kidney disease, or end stage renal disease.

ICD-10	Description
I27.83	Eisenmenger's syndrome.
I42.0	Dilated cardiomyopathy.
I42.5-I42.9	Other cardiomyopathies.
I43	Cardiomyopathy in diseases classified elsewhere.
I44.0-I44.7	Atrioventricular and left bundle-branch block.
I45.0-I45.9	Other conduction disorders.
I46.2-I46.9	Cardiac arrest.
I47.0-I47.9	Paroxysmal tachycardia.
I48.0-I49.9	Atrial fibrillation.
I50.1-I50.43	Heart failure.
I50.9	Heart failure, unspecified.
K22.6	Gastro-esophageal laceration-hemorrhage syndrome.
K22.81-K22.89	Other specified diseases of esophagus.
K25.0-K25.9	Gastric ulcer.
K26.0-K26.9	Duodenal ulcer.
K27.0-K27.9	Peptic ulcer, site unspecified.
K28.0-K28.9	Gastrojejunal ulcer.
K29.00-K29.91	Gastritis and duodenitis.
K30	Functional dyspepsia.
K31.0	Acute dilation of stomach.
K31.7	Polyp of stomach and duodenum.
K31.811-K31.9	Other specified diseases of stomach and duodenum.
K50.00-K52.839	Noninfective enteritis and colitis.
K55.011-K55.33	Other diseases of intestines.
K56.699	Other intestinal obstruction unspecified as to partial versus complete obstruction.
K57.01	Diverticulitis of small intestine with perforation and abscess with bleeding.
K57.11	Diverticulosis of small intestine without perforation or abscess with bleeding.
K57.13	Diverticulitis of small intestine without perforation or abscess with bleeding.
K57.21	Diverticulitis of large intestine with perforation and abscess with bleeding.
K57.31	Diverticulosis of large intestine without perforation or abscess with bleeding.
K57.33	Diverticulitis of large intestine without perforation or abscess with bleeding.
K57.41	Diverticulitis of both small and large intestine with perforation and abscess with bleeding.
K57.51	Diverticulosis of both small and large intestine without perforation or abscess with bleeding.
K57.53	Diverticulitis of both small and large intestine without perforation or abscess with bleeding.
K57.81	Diverticulitis of intestine, part unspecified, with perforation and abscess with bleeding.
K57.91	Diverticulosis of intestine, part unspecified, without perforation or abscess with bleeding.
K57.93	Diverticulitis of intestine, part unspecified, without perforation or abscess with bleeding.
K62.5	Hemorrhage of anus and rectum.
K63.5	Polyp of colon.
K63.81	Dieulafoy lesion of intestine.
K70.0-K77	Diseases of the liver.
K90.0	Celiac disease.
K90.1	Tropical sprue.
K90.2	Blind loop syndrome, not elsewhere classified.
K90.41-K90.49	Other malabsorption due to intolerance.
K90.89	Other intestinal malabsorption.
K90.9	Intestinal malabsorption, unspecified.
K91.2	Postsurgical malabsorption, not elsewhere classified.
K92.0	Hematemesis.
K92.1	Melena.

ICD-10	Description
K92.2	Gastrointestinal hemorrhage, unspecified.
K94.20-K94.29	Gastrostomy complications.
L28.0-L28.2	Lichen simplex chronicus and prurigo.
L29.0-L29.9	Pruritis.
L57.3	Poikiloderma of Civatte.
L63.0-L63.9	Alopecia areata.
L64.0-L64.9	Androgenic alopecia.
L65.0-L65.9	Other nonscarring hair loss.
L66.0	Pseudopelade.
L66.2	Folliculitis decalvans.
L66.8-L66.9	Cicatricial alopecia.
L80	Vitiligo.
L81.0-L81.9	Other disorders of pigmentation.
L98.1	Factitial dermatitis.
M06.1	Adult onset Stills disease.
M07.60-M07.69	Enteropathic arthropathies.
M08.80	Other juvenile arthritis, unspecified site.
M12.80-M12.9	Other specific arthropathies, not elsewhere classified.
M13.0-M13.179	Other arthritis.
M14.80	Arthropathies in other specified diseases classified elsewhere, unspecific site.
M1A.10X0-M1A.19X1	Lead-induced chronic gout.
M25.50-M25.59	Pain in joint.
M25.561-M25.569	Pain in knee.
M25.571-M25.59	Pain in ankle and joints of foot.
M35.81	Multisystem inflammatory syndrome.
M79.641-M79.646	Pain in hand and fingers.
M84.750A-M84.759S	Nontraumatic fracture, not elsewhere classified.
M97.01XA	Periprosthetic fracture around internal prosthetic right hip joint, initial encounter.
M97.02XA	Periprosthetic fracture around internal prosthetic left hip joint, initial encounter.
M97.11XA	Periprosthetic fracture around internal prosthetic right knee joint, initial encounter.
M97.12XA	Periprosthetic fracture around internal prosthetic left knee joint, initial encounter.
M97.21XA	Periprosthetic fracture around internal prosthetic right ankle joint, initial encounter.
M97.22XA	Periprosthetic fracture around internal prosthetic left ankle joint, initial encounter.
M97.31XA	Periprosthetic fracture around internal prosthetic right shoulder joint, initial encounter.
M97.32XA	Periprosthetic fracture around internal prosthetic left shoulder joint, initial encounter.
N02.0-N02.A	Recurrent and persistent hematuria.
N04.0-N04.A	Nephrotic syndrome.
N08	Glomerular disorders in diseases classified elsewhere.
N18.1-N18.9	Chronic kidney disease.
N19	Unspecified kidney failure.
N50.0	Atrophy of testis.
N89.7	Hematocolpos.
N91.0-N91.5	Absent, scanty and rare menstruation.
N92.0-N92.6	Excessive, frequent and irregular menstruation.
N93.0-N93.9	Other abnormal uterine and vaginal bleeding.
N95.0	Postmenopausal bleeding.
N99.116	Postprocedural urethral stricture, male, overlapping sites.
O09.A0-O09.A3	Supervision of pregnancy with history of molar pregnancy.
O11.4-O11.5	Pre-existing hypertension with pre-eclampsia, complicating childbirth or puerperium.
O90.81	Anemia of the puerperium.
O99.011-O99.019	Anemia complicating pregnancy.
O99.02-O99.03	Anemia complicating childbirth or puerperium.

ICD-10	Description
O99.891-O99.893	Other specified diseases and conditions complicating pregnancy, childbirth and the puerperium.
P55.1	ABO isoimmunization of newborn.
P55.8-P55.9	Other or unspecified hemolytic diseases of newborn.
P56.0-P56.99	Hydrops fetalis due to hemolytic disease.
P57.0	Kernicterus due to isoimmunization.
Q85.00-Q85.09	Neurofibromatosis (nonmalignant).
R00.1	Bradycardia, unspecified.
R11.10	Vomiting, unspecified.
R11.13	Vomiting of fecal matter.
R53.0	Neoplastic (malignant) related fatigue.
R53.1	Weakness.
R53.81	Other malaise.
R53.83	Other fatigue.
R63.8	Other symptoms and signs concerning food and fluid intake.
R64	Cachexia.
R71.0-R71.8	Abnormality of red blood cells.
R74.01-R74.9	Nonspecific elevation of levels of transaminase and lactic acid dehydrogenase [LDH].
R78.71-R78.79	Finding of abnormal level of heavy metals in blood.
R78.89	Finding of other specified substances, not normally found in blood.
R79.0	Abnormal level of blood mineral.
R79.89	Other specified abnormal findings of blood chemistry.
R79.9	Abnormal finding of blood chemistry, unspecified.
R94.5	Abnormal results of liver function studies.
T40.411A-T40.415S	Poisoning by, adverse effect of fentanyl or fentanyl analogs.
T40.421A-T40.425S	Poisoning by, adverse effect of tramadol.
T40.491A-T40.495S	Poisoning by, adverse effect of other synthetic narcotics.
T43.641A-T43.644S	Poisoning by ecstasy.
T45.4X1A-T45.4X4A	Poisoning by iron and its compounds, initial encounter.
T50.911A-T50.915S	Poisoning by, adverse effect of multiple unspecified drugs, medicaments and biological substances.
T56.0X1A-T56.0X4A	Toxic effect of soaps, initial encounter.
T80.89XA	Other complications following infusion, transfusion and therapeutic injection, initial encounter.
T80.910A	Acute hemolytic transfusion reaction, unspecified incompatibility, initial encounter.
T80.911A	Delayed hemolytic transfusion reaction, unspecified incompatibility, initial encounter.
T80.919A	Hemolytic transfusion reaction, unspecified incompatibility, unspecified as acute or delayed, initial encounter.
T80.92XA	Unspecified transfusion reaction, initial encounter.
T86.00-T86.09	Complications of bone marrow transplant.
Z00.121	Encounter for routine child health examination with abnormal findings.
Z13.0	Encounter for screening for diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism.
Z21	Asymptomatic human immunodeficiency virus [HIV] infection status.
Z31.7	Encounter for procreative management and counseling for gestational carrier.
Z33.1	Pregnant state, incidental.
Z34.01	Encounter for supervision of normal first pregnancy, first trimester.
Z34.02	Encounter for supervision of normal first pregnancy, second trimester.
Z34.03	Encounter for supervision of normal first pregnancy, third trimester.
Z34.81	Encounter for supervision of other normal pregnancy, first trimester.
Z34.82	Encounter for supervision of other normal pregnancy, second trimester.
Z34.83	Encounter for supervision of other normal pregnancy, third trimester.

ICD-10	Description
Z34.91	Encounter for supervision of normal pregnancy, unspecified, first trimester.
Z34.92	Encounter for supervision of normal pregnancy, unspecified, second trimester.
Z34.93	Encounter for supervision of normal pregnancy, unspecified, third trimester.
Z49.31-Z49.32	Encounter for adequacy testing for dialysis.
Z79.3	Long term (current) use of hormonal contraceptives.
Z79.891	Long term (current) use of opiate analgesic.
Z79.899	Other long term (current) drug therapy.
Z83.430	Family history of elevated lipoprotein(a).
Z83.438	Family history of other disorder of lipoprotein metabolism and other lipidemia.
Z84.82	Family history of sudden infant death syndrome.
Z86.2	Personal history of diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism.
Z86.39	Personal history of other endocrine, nutritional, and metabolic disease.
Z95.2	Presence of prosthetic heart valve.
Z95.811	Presence of heart assist device.
Z95.818	Presence of fully implantable artificial heart.
Z95.820-Z95.828	Presence of other vascular implants and grafts.
Z96.60	Presence of unspecified orthopedic joint implant.
Z98.870-Z98.871	Personal history of in utero procedure.
Z98.890-Z98.891	Other specified postprocedural states.

Compliance

1. Should conflict exist between this policy and applicable statute, the applicable statute shall supersede.
2. Federal and State law, as well as contract language, including definitions and specific contract provisions or exclusions, take precedence over medical policy and must be considered first in determining eligibility for coverage.
3. Medical technology is constantly evolving, and Iowa Medicaid reserves the right to review and update medical policy on an annual and as-needed basis.

Medical necessity guidelines have been developed for determining coverage for member benefits and are published to provide a better understanding of the basis upon which coverage decisions are made. They include concise clinical coverage criteria based on current literature review, consultation with practicing physicians in the service area who are medical experts in the particular field, FDA and other government agency policies, and standards adopted by national accreditation organizations. Criteria are revised and updated annually, or more frequently if new evidence becomes available that suggests needed revisions.

References

Laboratory Studies in the Diagnosis of Iron Deficiency, Latent Iron Deficiency and Iron Deficient Erythropoiesis. 2020. Available at https://sabm.org/iron-deficiency-lab-studies/. Accessed on March 28, 2024.

Iron - Consumer (nih.gov).

Micronutrient Facts | Nutrition | CDC.

Recommendations to Prevent and Control Iron Deficiency in the United States (cdc.gov).

EncoderPro.

Serum Iron Studies. CMS National Coverage Determination. Manual Section Number 190.18. Implementation date January 1, 2003.

Auerbach m. DeLoughery T. Causes and diagnosis of iron deficiency and iron deficiency anemia in adults. UpToDate. This topic last updated February 23, 2024.

Development of utilization management criteria may also involve research into other state Medicaid programs, other payer policies, consultation with experts and review by the Medicaid Clinical Advisory Committee (CAC). These sources may not be referenced individually unless they are specifically published and are otherwise applicable to the criteria at issue.

Criteria Change History

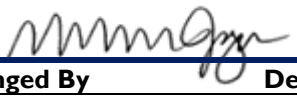
Change Date	Changed By	Description of Change	Version

Signature

Change Date	Changed By	Description of Change	Version

Signature

Change Date	Changed By	Description of Change	Version
7/19/2024	CAC	Added ICD-10 codes.	2

Signature
William (Bill) Jagiello, DO 

Change Date	Changed By	Description of Change	Version
4/19/2024	CAC	Policy implementation.	1

Signature
William (Bill) Jagiello, DO