Iron polysaccharide (eye-ern-poll-e-ak-sak-a-ride)

**Classification**
Therapeutic: antianemics
Pharmacologic: iron supplements

**Indications**
PO: Treatment & prevention iron deficiency anemia.

**Action**
An essential mineral found in hemoglobin, myoglobin, and many enzymes. Enters the bloodstream and is transported to the organs of the reticuloendothelial system (liver, spleen, bone marrow) where it becomes part of iron stores. Therapeutic Effects: Resolution or prevention of iron deficiency anemia.

**Pharmacokinetics**

- **Absorption:** Approximately 5–10% of dietary iron is absorbed (up to 30% in deficiency states). Therapeutically administered PO iron is up to 60% absorbed via active and passive transport processes.
- **Distribution:** Remains in the body for many months. Crosses the placenta; enters breast milk.
- **Protein Binding:** 90%.
- **Metabolism and Excretion:** Mostly recycled; small daily losses occurring via desquamation, sweat, urine, and bile.
- **Half-life:**

**Time/Action Profile (effects on erythropoiesis)**

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO</td>
<td>4 days</td>
<td>7–10 days</td>
<td>2–4 mo</td>
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**Contraindications/Precautions**

- Use Cautionally in: Peptic ulcer disease, Ulcerative colitis or regional enteritis (condition may be aggravated). Alcoholism; Severe hepatic impairment; Severe renal impairment.

**Adverse Reactions/Side Effects**

- **CNS:** Dizziness, headache, syncope.
- **GI:** Nausea, constipation, dark stools, epigastric pain, GI bleeding, vomiting. Miscellaneous: hemolysis, reduria, orange urine.

**Interactions**

- **Drug-Drug:** Interaction with tetracyclines, fluoroquinolones, bisphosphonates, levothyroxine, mycofenolate mofetil, and penicillamine (combined administration should be avoided). Absorption of and may affect of levodopa and methyldopa. Concurrent administration of proton pump inhibitors, bisphosphonates, and cholestyramine may decrease absorption of iron. Decrease in absorption of tetracyclines and tetracycline may occur with iron preparations.
- **Drug-Food:** Iron absorption is decreased by concurrent administration of food.

**Route/Dosage**

- **PO (Adults):** 50–100 mg twice daily of tablets or 150–300 mg/day of the capsules.
- **PO (Children ≥6yr):** 50–100 mg/day (may be given in divided doses).
- **PO (Infants):** 1–2 mg/kg/day.
- **PO (Adults — Pregnant Women):** 30–60 mg/day.

**NURSING IMPLICATIONS**

**Assessment**

- Assess nutritional status and dietary history to determine possible cause of anemia and need for patient teaching.
- Assess bowel function for constipation or diarrhea. Notify health care professional and use appropriate nursing measures should these occur.
- **Lab Test Considerations:** Monitor hematocrit, hematoglobin, and reticulocyte values prior to and every 3 wk during the first 2 mo of therapy and periodically thereafter. Serum ferritin and iron levels may also be monitored to assess effectiveness of therapy.
- Occult blood in stools may be obscured by black coloration of iron in stool. Guaiac test results may occasionally be false-positive. Blood tests results are not affected by iron preparations.
Toxicity and Overdose: Early symptoms of overdose include stomach pain, fever, nausea, vomiting (may contain blood), and diarrhea. Late symptoms include bluish lips, fingernails, and palms; drowsiness; weakness; tachycardia; seizures; metabolic acidosis; hepatic injury; and cardiovascular collapse. Patient must appear to recover prior to the onset of late symptoms. Therefore, hospitalization continues for 24 hr after patient becomes asymptomatic to monitor for delayed onset of shock or GI bleeding. Late complications of overdose include intestinal obstruction, pyloric stenosis, and gastric scarring.

If patient is comatose or seizing, gastric lavage with sodium bicarbonate is performed. Deferoxamine is the antidote. Additional supportive treatments to maintain fluid and electrolyte balance and correction of metabolic acidosis are also indicated.

Potential Nursing Diagnoses

Activity intolerance

Implementation

Discontinue oral iron preparations prior to parenteral administration.

Oral preparations are most effectively absorbed if administered 1 hr before or 2 hr after meals. If gastric irritation occurs, administer with meals. Take tablets and capsules with a full glass of water or juice. Do not crush or chew enteric-coated tablets and do not open capsules.

Avoid using antacids, coffee, tea, dairy products, eggs, or whole-grain breads with or within 1 hr after administration of ferrous salts. Iron absorption is decreased by 33% if iron and calcium are given with meals.

Patient/Family Teaching

Explain purpose of iron therapy to patient.

Encourage patient to comply with medication regimen. Take missed doses as soon as remembered within 12 hr; otherwise, return to regular dosing schedule. Do not double doses.

Advise patient that stools may become dark green or black.

Discuss with parents the risk of a child overdosing on iron. Medication should be stored in the original childproof container and kept out of reach of children. Do not refer to vitamins as candy. In the event of a suspected overdose, parents should contact poison control center (1–800–222–1222) or emergency medical services (911) immediately.

Evaluation/Desired Outcomes

Increase in hemoglobin, which may reach normal parameters after 1–2 mo of therapy. May require 3–6 mo for normalization of body iron stores.

Improvement in or prevention of iron deficiency anemia.

Why was this drug prescribed for your patient?