VENTURA COUNTY
HEALTH CARE PLAN

Prior Authorization DRUG Guidelines

DEFEROXAMINE MESYLATE

Effective Date: 1/28/14

Date Developed: 1/28/14 by Catherine Sanders, MD

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Deferoxamine is a chelating agent which complexes with trivalent ions (ferric ions) to form ferrioxamine, which is removed by the kidneys. This slows accumulation of hepatic iron and retards or eliminates progression of hepatic fibrosis. One hundred milligrams of deferoxamine will bind about 8.5 mg of free circulating elemental iron (85 mg per 1,000 mg dose) but does not remove iron from transferrin or hemoglobin. Ferrioxamine may create a pink- to red- or orange-colored urine as it is being excreted; however, the presence or absence of urine discoloration should not be used as a therapeutic endpoint.

Pre-Authorization Criteria: adjunct in the treatment of acute iron intoxication; treatment of chronic iron overload secondary to multiple transfusions

Off-Label: diagnosis or treatment of aluminum-induced toxicity associated with chronic kidney disease (CKD)

Dosing: Adult:

I.M., I.V.: Initial: 1000 mg, may be followed by 500 mg every 4 hours for 2 doses; subsequent doses of 500 mg have been administered every 4-12 hours based on clinical response (maximum recommended dose: 6000 mg/day [per manufacturer])

Acute iron toxicity: **Note**: The I.V. route is used when severe toxicity is evidenced by cardiovascular collapse or systemic symptoms (coma, shock, metabolic acidosis, or gastrointestinal bleeding) or potentially severe intoxications (peak serum iron level >500 mcg/dL) When severe symptoms are not present, the I.M. route may be used (per the manufacturer).

Chronic iron overload:
I.M.: 500-1000 mg/day (maximum: 1000 mg/day)
I.V.: 40-50 mg/kg/day (maximum: 60 mg/kg/day) over 8-12 hours for 5-7 days per week
SubQ: 1000-2000 mg/day or 20-40 mg/kg/day over 8-24 hours

Unlabeled dosing: I.V., SubQ: 25-50 mg/kg over 8-10 hours 5-7 days per week (Brittenham, 2011)

Dosing: Pediatric:

Acute iron toxicity: Children ≥3 years: Note: The I.V. route is used when severe toxicity is evidenced by cardiovascular collapse or systemic symptoms (coma, shock, metabolic acidosis, or gastrointestinal bleeding) or potentially severe intoxications (peak serum iron level >500 mcg/dL). When severe symptoms are not present, the I.M. route may be used (per the manufacturer).
I.M.: 90 mg/kg/dose every 8 hours (maximum: 6000 mg/24 hours)
I.V.: 15 mg/kg/hour (maximum: 6000 mg/24 hours)

Chronic iron overload: Children ≥3 years:
I.V.: 20-40 mg/kg/day over 8-12 hours for 5-7 days per week; dose should not exceed 40 mg/kg/day until growth has ceased
SubQ: 20-40 mg/kg/day over 8-12 hours (maximum: 1000-2000 mg/day)

Dosing: Geriatric:
Refer to adult dosing. May initiate at the lower end of the dosing range.

Dosing: Renal Impairment:
Severe renal disease or anuria: Use is contraindicated in the manufacturer's U.S. labeling. The following adjustments have been used by some clinicians (Aronoff, 2007): Adults:
Cl_{cr} >50 mL/minute: No adjustment required
Cl_{cr} 10-50 mL/minute, CRRT: Administer 25% to 50% of normal dose
Cl_{cr}<10 mL/minute, hemodialysis, peritoneal dialysis: Avoid use

Dosing: Hepatic Impairment:
There are no dosage adjustments provided in the manufacturer's labeling (has not been studied).

Dosage Forms:
Solution Reconstituted, Injection, as mesylate:
Desferal: 500 mg; 2 g
Generic: 500 mg; 2 g

Precautions:

Deferoxamine is not to be used is patient with severe renal disease or anuria.

Deferoxamine is not indicated for the treatment of primary hemochromatosis (treatment of choice is phlebotomy)

Adverse Reactions:
Severe: cataracts (long term use), optic neuritis, vision loss, hearing loss, anaphylaxis, angiodemea, growth retardations (high dose use), bone changes, hypotension, severe (rapid IV use), shock (rapid IV use), asthma, cardiac dysfunction (vitamin C combination treatment), ARDS, Yersinia infections susceptibility increased, mucormycosis, blood dyscrasias, neuropathy, acute renal failure. Use may worsen or precipitate new myasthenia gravis.

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			Deferoxamine and dosing information. Added “Use may worsen or precipitate new myasthenia gravis” in Adverse reaction section