Priority Health

MEDICAL POLICY
No. 91077-R5

CHELATION THERAPY

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Date of Origin: July 7, 1989	**Status: Current**

I. POLICY/CRITERIA

A. Chelation therapy for the following diagnoses is medically necessary:
   1. Biliary cirrhosis
   2. Cooley's anemia
   3. Cystinuria
   4. Heavy metal poisoning (e.g., arsenic, copper, gold, iron, lead, mercury)
   5. Wilson's disease
   6. Patients who have iron overload secondary to multiple blood transfusions (e.g., sickle cell anemia)

B. Chelation therapy for all other conditions is not medically necessary.

C. Chelation therapy as a treatment for atherosclerosis has not been proven to be effective and is not medically necessary.

II. MEDICAL NECESSITY REVIEW

Prior authorization for certain drug, services, and procedures may or may not be required. In cases where prior authorization is required, providers will submit a prior authorization request demonstrating a drug, service, or procedure is medically necessary. For more information, please refer to the Priority Health Provider Manual

III. APPLICATION TO PRODUCTS

Coverage is subject to member's specific benefits. Group specific policy will supersede this policy when applicable.

- **HMO/EPO:** ***This policy applies to insured HMO/EPO plans.***
- **POS:** ***This policy applies to insured POS plans.***
- **PPO:** ***This policy applies to insured PPO plans. Consult individual plan documents as state mandated benefits may apply. If there is a conflict between this policy and a plan document, the provisions of the plan document will govern.***
- **ASO:** ***For self-funded plans, consult individual plan documents. If there is a conflict between this policy and a self-funded plan document, the provisions of the plan document will govern.***

- **INDIVIDUAL:** ***For individual policies, consult the individual insurance policy. If there is a conflict between this medical policy and the individual insurance policy document, the provisions of the individual insurance policy will govern.***
- **MEDICARE:** ***Coverage is determined by the Centers for Medicare and Medicaid Services (CMS) and/or the Evidence of Coverage (EOC); if a coverage determination has not been adopted by CMS, this policy applies.***
- **MEDICAID/HEALTHY MICHIGAN PLAN:** ***For Medicaid/Healthy Michigan Plan members, this policy will apply. Coverage is based on medical necessity criteria being met and the appropriate code(s) from the coding section of this policy being included on the Michigan Medicaid Fee Schedule located at: http://www.michigan.gov/mdch/0,1607,7-132-2945_42542_42543_42546_42551-159815--,00.html. If there is a discrepancy between this policy and the Michigan Medicaid Provider Manual located at: http://www.michigan.gov/mdch/0,1607,7-132-2945_5100-87572--,00.html, the Michigan Medicaid Provider Manual will govern. For Medical Supplies/DME/Prosthetics and Orthotics, please refer to the Michigan Medicaid Fee Schedule to verify coverage.***

IV. DESCRIPTION

Chelation is a process of administering a substance such as ethylene diamine tetra-acetic acid (EDTA), 2,3-dimercaptosuccinic acid (DMSA), or 2,3-dimercaptopropane-1-sulfonate (DMPS), to remove heavy metals such as iron or mercury from the body. Chelation therapy involves repeated intravenous administration of the chelating agent, drugs that are heavy metal antagonists that binds certain metals and render them physiologically inactive so they can be excreted in the urine. A typical protocol might consist of 30 intravenously administered solutions of 3 grams of disodium EDTA with concomitant administration of varying levels of ascorbic acid, B-vitamins, heparin, and the minerals magnesium, copper, zinc, selenium and manganese delivered over 1.5 to 3 hours in 500 ml to 1000 ml of normal saline. Therapy is often delivered on a weekly or biweekly basis and may be followed up with a less frequent maintenance schedule (Seely, 2005). Chelation therapy has been proven to be an effective treatment for specific medical diagnoses. In series of Choosing Wisely guidelines, the American College of Medical Toxicology and American Academy of Clinical Toxicology do not recommend chelation except for documented metal intoxication, which has been diagnosed using validated tests in appropriate biological samples. Chelation does not improve objective outcomes in autism, cardiovascular disease, or neurodegenerative conditions like Alzheimer's disease.

A systematic review of chelation therapy for atherosclerotic cardiovascular disease examined five studies with a total of 1993 randomized participants did not find any clear differences between people treated with chelation and people given the control, for the outcomes evaluated. None of the outcomes included more than two studies, therefore further high-quality trials that focus on clinical outcomes are necessary (Villarruz-Sulit, 2020). Due to insufficient evidence to determine the effectiveness of chelation therapy in improving clinical outcomes of people with atherosclerotic cardiovascular disease. More high-quality, randomized controlled trials are needed that assess the effects of chelation therapy on longevity and quality of life among people with atherosclerotic cardiovascular disease or neurodegenerative disease remains investigational.

In systematic review of chelation therapy in patients with cardiovascular disease, the authors found that overall, 17 studies suggested improved outcomes, 5 reported no statistically significant effect of treatment, and 2 reported no qualitative benefit. Repeated EDTA for CVD treatment may provide more benefit to patients with diabetes and severe peripheral arterial disease. Differences across infusion regimens, including dosage, solution components, and number of infusions, limit comparisons across studies. Additional research is necessary to confirm these findings and to evaluate the potential mediating role of metals (Ravalli, 2022). The review included 4 clinical trials, 15 prospective before/after studies, and 5 retrospective case series assessing mortality, disease severity, plasma biomarkers of disease chronicity, and/or quality of life.

To definitively determine the effectiveness and safety of chelation therapy, the National Center for Complementary and Alternative Medicine and the National Heart, Lung, and Blood Institute released a request for applications in 2001 for a definitive study of edetate disodium treatment in subjects with coronary artery disease (CAD), and the aptly named TACT (Trial to Assess Chelation Therapy). A total of 1708 post-MI patients who were 50 years or older with a creatinine of 2.0 or less were enrolled and received 55,222 infusions of disodium EDTA or placebo with a median follow-up of 55 months. TACT didn't provide enough evidence to support routine use of this treatment for heart disease. But it did find that chelation therapy offered moderate protection against future cardiovascular events, such as stroke and heart attack, in those with diabetes (Lamas, 2016). In a follow-up study, Trial to Assess Chelation Therapy 2 (TACT2) was a multicenter, double-masked trial comparing the effect of 40 infusions of an EDTA-based solution with placebo infusions administered approximately weekly and comparing the effect of high doses of oral multivitamins and minerals with oral placebo. TACT2 was designed to replicate TACT, its predecessor study, but involved diabetic patients with prior MI to assess the relationship between the expected prognostic benefits and the depletion of body stores of lead and cadmium with repeated EDTA infusions. Results TACT2 concluded that despite effectively reducing blood lead levels, EDTA chelation was not effective in reducing cardiovascular events in stable patients with coronary artery disease who have diabetes and a history of MI.

Chelation therapy have been proposed for the treatment of Autism Spectrum Disorder (ASD). However, the safety and efficacy of chelation therapy for ASD has not been well studied in controlled trials (Adams, 2009). Use of chelation is based on the hypothesis that the behaviors observed in children with ASD are secondary to toxicity from mercury or other heavy metals and that children with ASD do not excrete heavy metals effectively. However, there is little evidence to support this hypothesis. American Academy of Pediatrics Council on Environmental Health recommend against routinely test urine for metals and minerals in children with autistic behaviors. Toxicologic exposures have not been conclusively associated with the development of autistic behaviors in children. Testing for metals and minerals may be harmful if treatment is guided on the basis of these results (Choosing Wisely Recommendation 487).

V. CODING INFORMATION

ICD-10 Codes that are covered when criteria listed above is met:

D56.0 – D56.9	Thalassemia
D57.00 – D57.819	Sickle-cell disorders
E72.00 – E72.09	Disorders of amino-acid transport
E83.00 – E83.09	Disorders of copper metabolism
E83.10 – E83.19	Disorders of iron metabolism
E83.52	Hypercalcemia
K74.3	Primary biliary cirrhosis
K74.4	Secondary biliary cirrhosis
K74.5	Biliary cirrhosis, unspecified
T56.0x1A - T56.0x4S	Toxic effects of lead and its compounds
T56.1x1A - T56.1x4S	Toxic effect of mercury and its compounds
T56.3x1A – T56.3x4S	Toxic effect of cadmium and its compounds
T56.4x1A - T56.4x4S	Toxic effect of copper and its compounds
T56.5x1A - T56.5x4S	Toxic effect of zinc and its compounds
T56.811A - T56.814S	Toxic effect of thallium
T56.891A - T56.894.S	Toxic effect of other metals
T56.91xA - T56.94xS	Toxic effect of unspecified metal
T57.0x1A – T57.0X4S	Toxic effect of arsenic and its compounds
T80.92xA - T80.92xS	Unspecified transfusion reaction

HCPCS Codes:

J0470	Injection, dimercaprol, per 100 mg
J0600	Injection, edetate calcium disodium, up to 1000 mg
J0895	Injection, deferoxamine mesylate, 500 mg
J3520	Edetate disodium, per 150 mg
S9355	Home infusion therapy, chelation therapy; administrative services, professional pharmacy services, care coordination, and all necessary supplies and equipment (drugs and nursing visits coded separately), per diem – *requires prior auth*

VI. REFERENCES

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