Overview

Useful For
Determining the amount of oxalate removed during a dialysis session
Individualizing the dialysis prescription of hyperoxaluric patients

Method Name
Ion Chromatography (IC)

NY State Available
Yes

Specimen

Specimen Type
Dialysate Fluid

Specimen Required
Patient Preparation: Patient should avoid taking vitamin C supplements for 24 hours prior to dialysis.

Supplies: Urine tubes, 10 mL (T068)

Container/Tube: Plastic, 10-mL urine tube (T068) or a clean, plastic aliquot container with no metal cap or glued insert

Specimen Volume: 5 mL

Collection Instructions: Adjust the pH of the specimen to 2.5 to 3.0 with 6M Hydrochloric Acid.

Additional Information: Nonacidified frozen hemodialysate delivered to the laboratory within 3 days from collection will be accepted and the following comment will be added to the result: In nonacidified hemodialysate stored frozen, oxalate values may increase spontaneously up to 30% (average 11% increase for dialysate oxalate stored for 48 hours, frozen, nonacidified).

Forms
If not ordering electronically, complete, print, and send a Renal Diagnostics Test Request (T830) with the specimen.

Specimen Minimum Volume
2 mL

Reject Due To
All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Specimen Stability Information
Clinical and Interpretive

Clinical Information
Oxalate is a dicarboxylic acid, an end product of glyoxalate and glycerate metabolism that is excreted in the urine where it is a common component of kidney stones (up to 85%). Hyperoxaluria can be either genetic (eg, primary hyperoxaluria) or acquired/secondary (eg, enteric hyperoxaluria), and can lead to nephrocalcinosis and renal failure. Monitoring the adequacy of oxalate removal during hemodialysis can be useful in the management of patients with hyperoxaluria and renal failure, particularly following transplantation.

Reference Values
Not applicable

Interpretation
A steady decrease in oxalate signal is expected through dialysis procedure.

Signals below 2 mcM should be considered ideal conditions.

Total oxalate removed during a dialysis session can be estimated by multiplying the concentration of oxalate in the dialysate by the oxalate flow rate for each time period that the oxalate is measured.

Cautions
Proper specimen processing and acidification are essential to obtain a quality result and avoid nonenzymatic generation of oxalate from ascorbate.

Clinical Reference

Performance
Method Description
This is an ion-exchange chromatography (or ion chromatography) method which allows the separation of ions and polar molecules based on their affinity to the ion exchanger. The oxalate molecule will be separated from other anions using the Dionex ICS 2100 instrument.(Unpublished Mayo method)

PDF Report
**Test Definition: DOXA**
Oxalate, Dialysate Fluid

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**No**

**Day(s) and Time(s) Test Performed**
Monday through Sunday; Continuously

**Analytic Time**
3 days

**Maximum Laboratory Time**
7 days

**Specimen Retention Time**
14 days

**Performing Laboratory Location**
Rochester

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**Fees and Codes**

**Fees**
- Authorized users can sign in to Test Prices for detailed fee information.
- Clients without access to Test Prices can contact Customer Service 24 hours a day, seven days a week.
- Prospective clients should contact their Regional Manager. For assistance, contact Customer Service.

**Test Classification**
This test was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**
83945

**LOINC® Information**

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