Test Definition: HEXU

Iohexol, U

Overview

Useful For

Determining glomerular filtration rate in urine specimens

Method Name

Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

NY State Available

Yes

Specimen

Specimen Type

Urine

Specimen Required

Supplies: Aliquot Tube, 5 mL (T465)

Container/Tube: Plastic, 5-mL tube (T465)

Specimen Volume: 5 mL

Collection Instructions: Collect a timed urine specimen.

Forms

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

Specimen Minimum Volume

0.5 mL

Reject Due To

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

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Urine	Refrigerated (preferred)	7 days	
	Frozen	35 days	

Clinical and Interpretive

Clinical Information

The assessment of glomerular filtration rate (GFR) is an important parameter of renal function utilized by clinicians in

the care of patients with varying renal diseases, and for clinical research when precise assessment of renal function is necessary. The GFR is the sum of all the filtration rates of the individual nephrons within the kidney and, as such, reflects the number of functioning nephrons.

Urine concentrations of iohexol can be used for measurement of GFR following a subcutaneous injection of iohexol (plasma disappearance), or during a continuous infusion of iohexol when used in conjunction with plasma iohexol determinations (HEXP / Iohexol, Plasma). The results can be used to determine the clearance of iohexol, which is a measure of GFR.

Reference Values

Not applicable

Interpretation

Low glomerular filtration rate (GFR) values indicate abnormal renal function, which may be either reversible/transient or irreversible/permanent. GFR tends to decline with age.

Cautions

A theoretical complication to injection of iodinated contrast media (one that has not been observed clinically to date) is the transient suppression of thyroid function in premature and newborn infants. Therefore, a sensitive thyrotropin test is suggested approximately 2 to 3 weeks after an iohexol clearance in that age group.

Clinical Reference

1. Brown SC, O'Reilly PH: Iohexol clearance for the determination of glomerular filtration rate in clinical practice: evidence for a new gold standard. J Urol 1991;146:675-679

2. Gaspari F, Perico N, Ruggenenti P, et al: Plasma clearance of nonradioactive iohexol as a measure of glomerular filtration rate. J Am Soc Nephrol 1995;6:257-263

3. Schwartz GJ, Abraham AG, Furth SL, et al: Optimizing iohexol plasma disappearance curves to measure the glomerular filtration rate in children with chronic kidney disease. Kidney Int 2010;77:65-71

Performance

Method Description

Timed urine specimens are obtained after subcutaneous injection of nonradiolabeled iohexol. Iohexol results are acquired via a liquid chromatography-tandem mass spectrometry (LC-MS/MS) system. A ThermoFisher LX-2 Cohesive HPLC System and an ABSciex 5500 MS/MS are used for analysis.(Seegmiller JC, Burns BE, Lieske JC, et al: Discordant glomerular filtration rate determinations between iothalamate and iohexol renal clearances. Poster Session at: Renal Week 2010. 43rd Annual Meeting of the American Society of Nephrology. Denver, CO, 2010 Nov 16-21)

PDF Report

No

Day(s) and Time(s) Test Performed

Monday through Friday; 8 a.m.-4:30 p.m.

Analytic Time

3 days

Maximum Laboratory Time

4 days

Specimen Retention Time

7 days

Performing Laboratory Location

Rochester

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

82542

LOINC® Information

Test ID	Test Order Name	Order LOINC Value
HEXU	Iohexol, U	93973-6

Result ID	Test Result Name	Result LOINC Value
61712	Iohexol, U	93973-6