MAYO CLINIC LABORATORIES

NEW TEST

Notification Date: September 7, 2021
Effective Date: October 5, 2021

Metanephrines, Fractionated, Random, Urine

Test ID: METRN

Useful for:

A second-order screening test for the presumptive diagnosis of pheochromocytoma in patients with non-episodic hypertension.

Confirming positive plasma metanephrine results in patients with non-episodic hypertension.

Profile Information:

Test ID	Reporting Name	Available Separately	Always Performed
METAU	Metanephrines, Fract., Random, U	No	Yes
CRETR	Creatinine, Random, U	Yes (order RCTUR)	Yes

Methods:

METAU: Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS) Stable Isotope Dilution Analysis
CRETR: Enzymatic Colorimetric Assay

Reference Values:

METANEPHRINE/CREATININE
Normotensives
0-2 years: 82-418 mcg/g creatinine
3-8 years: 65-332 mcg/g creatinine
9-12 years: 41-209 mcg/g creatinine
13-17 years: 30-154 mcg/g creatinine
> or =18 years: 29-158 mcg/g creatinine

NORMETANEPHRINE/CREATININE
Males
Normotensives
0-2 years: 121-946 mcg/g creatinine
3-8 years: 92-718 mcg/g creatinine
9-12 years: 53-413 mcg/g creatinine
13-17 years: 37-286 mcg/g creatinine

18-29 years: 53-190 mcg/g creatinine
30-39 years: 60-216 mcg/g creatinine
40-49 years: 69-247 mcg/g creatinine
50-59 years: 78-282 mcg/g creatinine
60-69 years: 89-322 mcg/g creatinine
> or =70 years: 102-367 mcg/g creatinine
Females
Normotensives
0-2 years: 121-946 mcg/g creatinine
3-8 years: 92-718 mcg/g creatinine
9-12 years: 53-413 mcg/g creatinine
13-17 years: 37-286 mcg/g creatinine
18-29 years: 81-330 mcg/g creatinine
30-39 years: 93-379 mcg/g creatinine
40-49 years: 107-436 mcg/g creatinine
50-59 years: 122-500 mcg/g creatinine
60-69 years: 141-574 mcg/g creatinine
> or =70 years: 161-659 mcg/g creatinine

TOTAL METANEPHRINE/CREATININE
Males
Normotensives
0-2 years: 241-1,272 mcg/g creatinine
3-8 years: 186-980 mcg/g creatinine
9-12 years: 110-582 mcg/g creatinine
13-17 years: 78-412 mcg/g creatinine
18-29 years: 96-286 mcg/g creatinine
30-39 years: 106-316 mcg/g creatinine
40-49 years: 117-349 mcg/g creatinine
50-59 years: 130-386 mcg/g creatinine
60-69 years: 143-427 mcg/g creatinine
> or =70 years: 159-472 mcg/g creatinine
Females
Normotensives
0-2 years: 241-1,272 mcg/g creatinine
3-8 years: 186-980 mcg/g creatinine
9-12 years: 110-582 mcg/g creatinine
13-17 years: 78-412 mcg/g creatinine
18-29 years: 131-467 mcg/g creatinine
30-39 years: 147-523 mcg/g creatinine
40-49 years: 164-585 mcg/g creatinine
50-59 years: 184-655 mcg/g creatinine
60-69 years: 206-733 mcg/g creatinine
> or =70 years: 230-821 mcg/g creatinine

Specimen Requirements:

Supplies: Urine Tubes, 10 mL (T068)

Container/Tube: Clean, plastic urine collection container

Specimen Volume: 10 mL

Collection Instructions: 1. Collect a random urine specimen.
2. No preservative.

Minimum Volume: 3 mL

Specimen Stability Information:

Specimen Type	Temperature	Time
Urine	Refrigerated (preferred)	28 days
	Ambient	14 days
	Frozen	28 days

Cautions:

While screening for pheochromocytoma is best accomplished by measuring plasma free fractionated metanephrines (a more sensitive assay), follow-up testing with urinary fractionated metanephrines (a more specific assay) may identify false-positives. Twenty-four hour urine collections are preferred, especially for patients with episodic hypertension; ideally the collection should begin at the onset of a "spell."

This test utilizes a liquid chromatography tandem mass spectrometry (LC-MS/MS) method and is not affected by the interfering substances that affected the previously utilized spectrophotometric (Pisano reaction) method (ie, diatrizoate, chlorpromazine, hydrazine derivatives, imipramine, monoamine oxidase [MAO] inhibitors, methyldopa, phenacetin, ephedrine, or epinephrine).

This method is also not subject to the known interference of acetaminophen (seen with the plasma metanephrine HPLC-EC method)

When N-acetylcysteine is administered at levels sufficient to act as an antidote for the treatment of acetaminophen overdose, it may lead to falsely decreased creatinine results.

CPT Code:

83835
82570

Day(s) Performed: Monday through Friday; 4 p.m. **Report Available:** 3 days (not reported on Sundays)

Questions

Contact Joshua Yang, Laboratory Technologist Resource Coordinator at 800-533-1710.