

**TEST CHANGE**

**Metanephrines Fractionated by HPLC-MS/MS, Urine**

2007996, META URINE

**Specimen Requirements:**

**Patient Preparation:** If possible, abstain from medications for 72 hours prior to collection.

**Collect:** 24-hour or random urine. Refrigerate 24-hour specimen during collection.

**Specimen Preparation:** Thoroughly mix entire collection (24-hour or random) in one container. Transfer a 4 mL aliquot to an ARUP [standard transport tube](#). ~~Standard Transport Tube~~. (Min: 2.5 mL) A pH lower than 2 can cause assay interference. Record total volume and collection time interval on transport tube and test request form. Specimen preservation can be extended to 1 month refrigerated by performing one of the following: Option 1: Transfer a 4 mL aliquot to an ARUP [standard transport tube](#). ~~Standard Transport Tube~~. (Min: 2.5 mL) Adjust pH to 2.0-4.0 with 6M HCl. Option 2: Transfer a 4 mL aliquot to an ARUP [standard transport tube](#). ~~Standard Transport Tube~~ containing 20 mg sulfamic acid (ARUP Supply #48098), available online through eSupply using ARUP Connect(TM) or contact ARUP Client Services at (800-)522-2787. (Min: 2.5 mL)

**Transport Temperature:** Refrigerated. Also acceptable: Frozen.

**Unacceptable Conditions:** Specimens preserved with boric acid or acetic acid.

**Remarks:**

**Stability:** Ambient: Unacceptable; Refrigerated: 2 weeks (unpreserved), 1 month (preserved); Frozen: 1 month

**Methodology:** Quantitative High Performance Liquid Chromatography-Tandem Mass Spectrometry

**Performed:** Sun-Sat

**Reported:** 1-~~5~~4 days

**Note:**

**CPT Codes:** 83835

**New York DOH Approval Status:** This test is New York DOH approved.

**Interpretive Data:**

Smaller increases in metanephrine and/or normetanephrine concentrations (less than two times the upper reference limit) usually are the result of physiological stimuli, drugs, or improper specimen collection. Essential hypertension is often associated with slight elevations (metanephrine less than 400 ~~ug/g~~ug/d and normetanephrine less than 900 ~~ug/g~~ug/d). Elevated concentrations may be due to intense physical activity, life-threatening illness, and drug interferences.

Significant elevation of one or both metanephrines (three or more times the upper reference limit) is associated with an increased probability of a neuroendocrine tumor.

Per 24h calculations are provided to aid interpretation for collections with a duration of 24 hours and an average daily urine volume. For specimens with notable deviations in collection time or volume, ratios of analytes to a corresponding urine creatinine concentration may assist in result interpretation.

~~This test was developed and its performance characteristics determined by ARUP Laboratories. It has not been cleared or approved by the US Food and Drug Administration. This test was performed in a CLIA-certified laboratory and is intended for clinical purposes.~~

**Reference Interval:**

Test Number	Components	Reference Interval		
	<b>Creatinine, Urine - per 24h</b>			
		Age	Male (mg/d)	Female (mg/d)
		3-8 years	140-700	140-700
		9-12 years	300-1300	300-1300
		13-17 years	500-2300	400-1600
		18-50 years	1000-2500	700-1600
		51-80 years	800-2100	500-1400
		81 years and older	600-2000	400-1300
	<b>Metanephrine, Urine - per 24h</b>			
		Age	Male (ug/d)	Female (ug/d)
		0-6 years	Not Applicable	Not Applicable
		7-12 years	45-273	40-209
		13-17 years	56-298	40-209
		18 years and older	55-320	36-229
	<b>Metanephrine, Urine - ratio to CRT</b>			
		Age	ug/g CRT	
		0-3 months	0-700	
		4-6 months	0-650	
		7-11 months	0-650	
		1 year	0-530	
		2-5 years	0-500	
		6-17 years	0-320	
		18 years and older	0-300	
	<b>Normetanephrine, Urine - per 24h</b>			
		Age	Male (ug/d)	Female (ug/d)
		0-6 years	Not Applicable	Not Applicable
		7-12 years	58-670	48-474
		13-17 years	82-553	65-406
		18-29 years	81-667	18 years and older: 95-650
		30 years and older	114-865	Not Applicable
	<b>Normetanephrine, Urine - ratio to CRT</b>			

		Age	ug/g CRT	
		0-3 months	0-3400	
		4-6 months	0-2200	
		7-11 months	0-1100	
		1 year	0-1300	
		2-5 years	0-610	
		6-17 years	0-450	
		18 years and older	0-400	

