

TEST CHANGE

Copper, Urine

0020461, COPPER U

Specimen Requirements:

Patient Preparation: Diet, medication, and nutritional supplements may introduce interfering substances. Patients should be encouraged to discontinue nutritional supplements, vitamins, minerals, and nonessential over-the-counter medications (upon the advice of their physician). Collection from patients receiving iodinated or gadolinium-based contrast media must be avoided for a minimum of 72 hours ~~post exposure~~~~postexposure~~. Collection from patients with impaired kidney function should be avoided for a minimum of 14 days ~~post contrast~~~~postcontrast~~ media exposure.

Collect: 24-hour urine. Refrigerate during collection. Specimen must be collected in a plastic container. Also acceptable: Random urine.

Specimen Preparation: Transfer an 8 mL aliquot from a well-mixed collection to ARUP Trace Element-Free Transport Tubes (ARUP supply #43116). Available online through eSupply using ARUP Connect(TM) or contact ARUP Client Services at 800-522-2787. (Min: 1 mL)

Transport Temperature: Refrigerated. Also acceptable: Room temperature or frozen.

Unacceptable Conditions: Specimens collected within 72 hours after administration of iodinated or gadolinium-based contrast media. Acid preserved urine. Specimens transported in containers other than specified. Specimens contaminated with blood or fecal material.

Remarks: Record total volume and collection time interval on transport tube and on test request form.

Stability: Ambient: 1 week; Refrigerated: 2 weeks; Frozen: 1 year

Methodology: Quantitative Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)

Note: High concentrations of iodine or gadolinium may interfere with elemental testing.

CPT Codes: 82525

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

Interpretive Data:

Individuals with symptomatic Wilson disease usually excrete more than 100 ~~ug/g~~ copper per day. Other conditions associated with elevated urine copper include cholestatic liver disease, proteinuria, and some medications ~~and~~ and contaminated specimens.

Although random specimens may contain diagnostic information, a 24-hour collection is a more

consistent indicator of urine copper.

Elevated results may be due to skin or collection-related contamination, including the use of collection containers that are not certified to be trace element-free. If an elevated result is suspected to be due to contamination, confirmation with a second specimen collected in a certified trace element-free container is recommended.

Methodology: Inductively Coupled Plasma - Mass Spectrometry (ICP-MS)

~~urine.~~

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.

Reference Interval:

Test Number	Components	Reference Interval		
	Copper, Urine - per 24h	3.0-45.0 microg/d		
	Copper, Urine - per volume	Less than or equal to 3.2 microg/dL		
	Copper, Urine - ratio to CRT	10.0-45.0 microg/g CRT		
	Creatinine, Urine - per 24h			
		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