

## TEST CHANGE

### Selenium, Urine

0025067, SE-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~~~~non-essential~~ over-the-counter medications (upon the advice of their physician). High concentrations of iodine may interfere with elemental testing. Abstinence from iodine-containing medications or contrast agents for at least 1 month prior to collecting specimens for elemental testing is recommended.

**Collect:** 24-hour or random urine collection. Specimen must be collected in a plastic container. ARUP studies indicate that refrigeration of urine alone, during and after collection, preserves specimens adequately, if tested within 14 days of collection.

**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:** Urine collected within 48 hours after administration of a gadolinium (Gd) containing contrast media (may occur with MRI studies). Acid -preserved urine. Specimens contaminated with blood or fecal material. Specimens transported in ~~nontrace~~~~non-trace~~ element -free transport tube (with the exception of the original device).

**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:

**CPT Codes:** 84255

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

#### Interpretive Data:

Urine selenium levels can be used to assess nutritional status and monitor excretion. Selenium deficiency can occur endemically or as a result of sustained TPN or restricted diets and has been associated with cardiomyopathy and may exacerbate hypothyroidism. Selenium toxicity is relatively rare. Excess intake of selenium can result in symptoms consistent with selenosis and

include gastrointestinal upset, hair loss, white blotchy nails, and mild nerve damage.

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)

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		
	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
	Selenium, Urine - per 24h	12.0-52.6 microg/d		
	Selenium, Urine - per volume	12.0-40.0 microg/L		
	Selenium, Urine - ratio to CRT	10.0-35.0 microg/g CRT		