

## TEST CHANGE

Thallium, Urine

0025019, THALU

### 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. Collection of urine specimens from patients receiving iodinated or gadolinium-based contrast media should be avoided for a minimum of 72 hours post-exposure. Collection from patients with impaired kidney function should be avoided for a minimum of 14 days post-contrast media exposure.

**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 72 hours after administration of iodinated or gadolinium-based contrast media. 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:** 83018

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

### Interpretive Data:

Urinary thallium levels may reflect recent or chronic exposure and the presence of thallium in urine after acute exposure may persist for up to several weeks. Concentrations less than 5 ug/L are unlikely to cause adverse health effects while concentrations greater than 500 ug/L have

been associated with clinical poisoning. After severe thallium poisoning reported symptoms have varying times of onset and include gastroenteritis, multi-organ failure and neurologic injury. Peripheral neuropathy and alopecia are well-documented effects of acute and chronic exposure. Human health effects from low level thallium exposure are unknown.

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
	Thallium, Urine - per 24h	<u>Less than or equal to 0.0-0.4 microg/d</u>		
	Thallium, Urine - per volume	<u>Less than or equal to 0.0-2.0 microg/L</u>		
	Thallium, Urine - ratio to CRT	<u>Less than or equal to 0.0-2.0 microg/g CRT</u>		