

Client: Example Client ABC123  
123 Test Drive  
Salt Lake City, UT 84108  
UNITED STATES

Physician: Doctor, Example

**Patient: Patient, Example**

**DOB:** 5/22/1956  
**Gender:** Female  
**Patient Identifiers:** 01234567890ABCD, 012345  
**Visit Number (FIN):** 01234567890ABCD  
**Collection Date:** 00/00/0000 00:00

**Heavy Metals Panel 6, Urine with Reflex to Arsenic Fractionated**

ARUP test code 0025055

Hours Collected	24 hr	
	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.	
Total Volume	2000 mL	
Creatinine, Urine - per volume	70 mg/dL	
Creatinine, Urine - per 24h	1400 mg/d	(Ref Interval: 500-1400)
Cadmium, Urine - per volume	<1.0 ug/L	(Ref Interval: 0.0-1.0)
	INTERPRETATION INFORMATION: Cadmium, Urine  Urine cadmium levels can be used to assess cadmium body burden. In chronic exposures, the kidneys are the primary target organ. Symptoms associated with cadmium toxicity vary based upon route of exposure and may include tubular proteinuria, fever, headache, dyspnea, chest pain, conjunctivitis, rhinitis, sore throat and cough. Ingestion of cadmium in high concentration may cause vomiting, diarrhea, salivation, cramps, and abdominal pain.  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.	
Cadmium, Urine - per 24h	Not Applicable ug/d	(Ref Interval: 0.0-3.2)
Cadmium, Urine - ratio to CRT	Not Applicable ug/g CRT	(Ref Interval: 0.0-3.2)

**H=High, L=Low, \*=Abnormal, C=Critical**

Unable to accurately calculate the creatinine normalized result due to a low per volume result.

Lead, Urine - per volume <5.0 ug/L (Ref Interval: 0.0-5.0)  
 INTERPRETIVE INFORMATION: Lead, Urine  
 Quantification of urine excretion rates before or after chelation therapy has been used as an indicator of lead exposure. Urinary excretion of >125 mg of lead per 24 hours is usually associated with related evidence of lead toxicity.  
 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.

Lead, Urine - per 24h Not Applicable ug/d (Ref Interval: 0.0-8.1)

Lead, Urine - ratio to CRT Not Applicable ug/g CRT (Ref Interval: 0.0-5.0)  
 Unable to accurately calculate the creatinine normalized result due to a low per volume result.

Copper, Urine - per volume <1.0 ug/dL (Ref Interval: <=3.2)  
 INTERPRETIVE INFORMATION: Copper, Urine  
 Individuals with symptomatic Wilson disease usually excrete more than 100 ug copper per day. Other conditions associated with elevated urine copper include cholestatic liver disease, proteinuria, some medications, and contaminated specimens.  
 Although random specimens may contain diagnostic information, a 24-hour collection is a more consistent indicator of urine copper.  
 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.

Copper, Urine - per 24h Not Applicable ug/d (Ref Interval: 3.0-45.0)

Copper, Urine - ratio to CRT Not Applicable ug/g CRT (Ref Interval: 10.0-45.0)  
 Unable to accurately calculate the creatinine normalized result due to a low per volume result.

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Mercury, Urine - per volume	<2.5 ug/L	(Ref Interval: 0.0-5.0)
	INTERPRETIVE INFORMATION: Mercury, Urine	
	Urinary mercury levels predominantly reflect acute or chronic elemental or inorganic mercury exposure. Urine concentrations in unexposed individuals are typically less than 10 ug/L. 24 hour urine concentrations of 30 to 100 ug/L may be associated with subclinical neuropsychiatric symptoms and tremors. Concentrations greater than 100 ug/L can be associated with overt neuropsychiatric disturbances and tremors. Urine mercury levels may be useful in monitoring chelation therapy.	
	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.	
Mercury, Urine - per 24h	Not Applicable ug/d	(Ref Interval: 0.0-20.0)
Mercury, Urine - ratio to CRT	Not Applicable ug/g CRT	(Ref Interval: 0.0-20.0)
	Unable to accurately calculate the creatinine normalized result due to a low per volume result.	
Zinc, Urine - per volume	30.0 ug/dL	(Ref Interval: 15.0-120.0)
Zinc, Urine - per 24h	600.0 ug/d	(Ref Interval: 150.0-1200.0)
Zinc, Urine - ratio to CRT	428.6 ug/g CRT	(Ref Interval: 110.0-750.0)
	INTERPRETIVE INFORMATION: Zinc, Urine	
	Zinc is predominantly eliminated in the feces. Elevated urine zinc may suggest excessive zinc supplementation but should be interpreted with a corresponding serum zinc concentration.	
	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.	
Arsenic Urine - per volume	<b>50.0 ug/L H</b>	<b>(Ref Interval: 0.0-34.9)</b>

H=High, L=Low, \*=Abnormal, C=Critical

INTERPRETIVE INFORMATION: Arsenic, Urine w/ Reflex to Fractionated

The ACGIH Biological Exposure Index (BEI) for arsenic in urine is 35 ug/L. The ACGIH BEI is based on the sum of inorganic and methylated species. For specimens with elevated total arsenic results, fractionation is automatically performed to determine the proportions of inorganic, methylated and organic species.

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Arsenic Urine - per 24h **100.0 ug/d H (Ref Interval: 0.0-49.9)**

Arsenic, Urine - ratio to CRT **71.4 ug/g CRT H (Ref Interval: 0.0-29.9)**

**Arsenic, Fractionated, Urine**

ARUP test code 0020734

Arsenic, Organic 25.0 ug/L

Arsenic, Inorganic <10.0 ug/L

Arsenic, Methylated 25.0 ug/L

INTERPRETIVE INFORMATION: Arsenic, Fractionated Urine

The ACGIH Biological Exposure Index for the sum of inorganic and methylated species of arsenic is 35 ug/L. Inorganic species of arsenic are most toxic. Methylated species arise primarily from metabolism of inorganic species but may also come from dietary sources and are of moderate toxic potential. The organic species of arsenic are considered nontoxic and arise primarily from food. The sum of the inorganic, methylated, and organic species of arsenic may be lower than the total arsenic concentration due to the presence of unidentified organic species of arsenic.

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.

**H=High, L=Low, \*=Abnormal, C=Critical**

VERIFIED/REPORTED DATES

Procedure	Accession	Collected	Received	Verified/Reported
Hours Collected	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Total Volume	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Creatinine, Urine - per volume	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Creatinine, Urine - per 24h	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Cadmium, Urine - per volume	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Cadmium, Urine - per 24h	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Cadmium, Urine - ratio to CRT	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Lead, Urine - per volume	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Lead, Urine - per 24h	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Lead, Urine - ratio to CRT	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Copper, Urine - per volume	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Copper, Urine - per 24h	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Copper, Urine - ratio to CRT	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Mercury, Urine - per volume	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Mercury, Urine - per 24h	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Mercury, Urine - ratio to CRT	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Zinc, Urine - per volume	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Zinc, Urine - per 24h	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Zinc, Urine - ratio to CRT	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Arsenic Urine - per volume	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Arsenic Urine - per 24h	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Arsenic, Urine - ratio to CRT	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Arsenic, Organic	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Arsenic, Inorganic	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00
Arsenic, Methylated	23-102-106436	00/00/0000 00:00	00/00/0000 00:00	00/00/0000 00:00

END OF CHART

H=High, L=Low, \*=Abnormal, C=Critical

Unless otherwise indicated, testing performed at:

ARUP LABORATORIES | 800-522-2787 | aruplab.com  
500 Chipeta Way, Salt Lake City, UT 84108-1221  
Jonathan R. Genzen, MD, PhD, Laboratory Director

Patient: Patient, Example  
ARUP Accession: 23-102-106436  
Patient Identifiers: 01234567890ABCD, 012345  
Visit Number (FIN): 01234567890ABCD  
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