ARUP LABORATORIES | aruplab.com
500 Chipeta Way, Salt Lake City, Utah 84108-1221
phone: 801-583-2787, toll free: 800-522-2787
Tracy I. George, MD, Chief Medical Officer

Patient Report

Patient Age/Gender: 35 years Female

Specimen Collected: 16-Sep-21 11:30

Heavy Metals Panel 4, Urine with Reflex | **Received: 16-Sep-21 11:30** | **Report/Verified: 16-Sep-21 11:49**

Procedure	Result	Units	Reference Interval
Hours Collected	24 f1	hr	
Total Volume	1000	mL	
Creatinine,Urine -per volume	100	mg/dL	
Creatinine,Urine -per 24h	1000	mg/d	700-1600
Cadmium,Urine -per volume	<1.0 i1	ug/L	0.0-1.0
Cadmium,Urine -per 24h	Not Applicable	ug/d	0.0-3.2
Cadmium,Urine -ratio to CRT	Not Applicable f2	ug/g CRT	0.0-3.2
Lead,Urine -per volume	<5.0 i2	ug/L	0.0-5.0
Lead,Urine -per 24h	Not Applicable	ug/d	0.0-8.1
Lead,Urine -ratio to CRT	Not Applicable f2	ug/g CRT	0.0-5.0
Mercury,Urine -per volume	<2.5 i3	ug/L	0.0-5.0
Mercury,Urine -per 24h	Not Applicable	ug/d	0.0-20.0
Mercury,Urine -ratio to CRT	Not Applicable f2	ug/g CRT	0.0-20.0
Arsenic Urine -per volume	**100.0 H i4**	ug/L	0.0-34.9
Arsenic Urine -per 24h	**100.0 H**	ug/d	0.0-49.9
Arsenic,Urine -ratio to CRT	**100.0 H**	ug/g CRT	0.0-29.9

Arsenic, Fractionated, Urine | **Received: 16-Sep-21 11:30** | **Report/Verified: 16-Sep-21 11:57**

Procedure	Result	Units	Reference Interval
Arsenic,Organic	100.0	ug/L	
Arsenic,Inorganic	<10.0	ug/L	
Arsenic,Methylated	<10.0 i5	ug/L	

Result Footnote

f1: Hours Collected

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.

f2: Cadmium, Urine - ratio to CRT, Lead, Urine - ratio to CRT, Mercury, Urine - ratio to CRT

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

Test Information

i1: Cadmium, Urine - per volume
INTERPRETATION INFORMATION: Cadmium, Urine

*=Abnormal, #=Corrected, C=Critical, f=Result Footnote, H-High, i-Test Information, L-Low, t-Interpretive Text, @=Performing lab

Test Information

i1: Cadmium, Urine - per volume

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.

i2: Lead, Urine - per volume

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.

i3: Mercury, Urine - per volume

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.

i4: Arsenic Urine - per volume

INTERPRETIVE INFORMATION: Arsenic, Urine w/ Reflex to Fractionated

The ACGIH Biological Exposure Index (BEI) for arsenic in urine is 35 µg/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.

Test Information

i4: Arsenic Urine - per volume

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.

i5: Arsenic, Methylated

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.