

Patient: [REDACTED]
 DOB: [REDACTED] Age: 37 Gender: M
 Patient Identifiers: [REDACTED]
 Visit Number (FIN): [REDACTED]

Client: [REDACTED]
 Physician: [REDACTED]

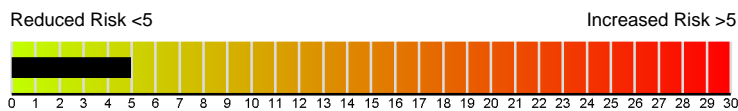
ARUP Test Code: 2008771
 Collection Date: 10/14/2019
 Received in lab: 10/14/2019
 Completion Date: 10/18/2019

Calculus

Calculated Risk Relative Supersaturation

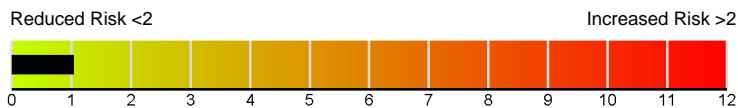
Calcium Oxalate

4.97



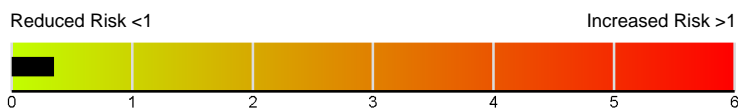
Calcium Hydrogen Phosphate

1.04



Uric Acid

0.35



Calculated risk is derived by a computer program that models the thermodynamics of calculi formation using measured urine components.

Specimen Condition

Analyte	Result	Units	Reference Interval	Effect
Hours Collected	24	h	24	Collection for 24 hours reflects daily excretion.
Total Volume	3550	mL	M 800-1800 F 600-1600	Low urine volume (<1L/24h) promotes calculi formation.
pH	5.87		5.00-7.50	Acidic urine (pH<5.5) promotes precipitation of uric acid. Alkaline urine (pH>7.2) promotes formation of CaHPO4 stones.
Creatinine	1988	mg/d	1000-2500	Excretion provides a measure of completeness of 24h urine collection.

Stone Formation Promoters

Analyte	Result	Units	Reference Interval	Effect
Calcium ¹	387	mg/d	100-250	Hypercalciuria (>200 mg/d) promotes formation of CaOx and CaHPO4 stones.
Oxalate	39	mg/d	16-49	Hyperoxaluria (>40 mg/d) promotes formation of CaOx stones.
Phosphorus	1100	mg/d	400-1300	Phosphorus forms insoluble complexes with calcium.
Sodium	167	mmol/d	51-286	Increased sodium promotes formation of CaOx and CaHPO4 stones.
Sulfate	18	mmol/d	6-30	Normal to high sulfate promotes precipitation of CaOx and CaHPO4 stones.
Uric Acid	607	mg/d	250-750	Hyperuricosuria (>600 mg/d) promotes formation of uric acid stones.

Stone Formation Inhibitors

Analyte	Result	Units	Reference Interval	Effect
Citric Acid	767	mg/d	320-1240	High citrate inhibits formation of CaOx and CaHPO4 stones.
Magnesium	124	mg/d	12-199	High magnesium inhibits formation of CaOx and CaHPO4 stones.



Patient: [REDACTED]
 ARUP Accession: 19-287-110981

Supersaturation Profile, Urine

Patient: [REDACTED] | Date of Birth: [REDACTED] | Gender: M | Physician: [REDACTED]
 Patient Identifiers: [REDACTED] | Visit Number (FIN): [REDACTED]

Other Components

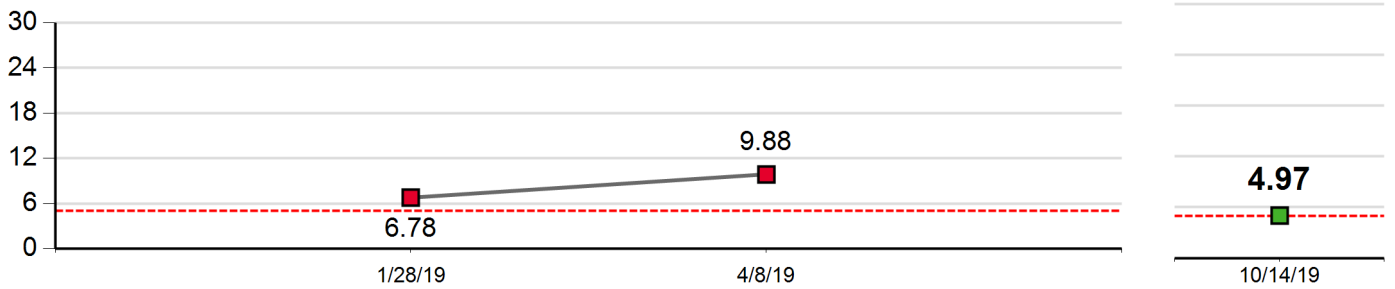
Analyte	Result	Units	Reference Interval	Effect
Potassium	67	mmol/d	25-125	Potassium forms soluble complexes.
Chloride	146	mmol/d	140-250	Chloride forms soluble complexes.

¹Average calcium diet (about 800 mg/d).

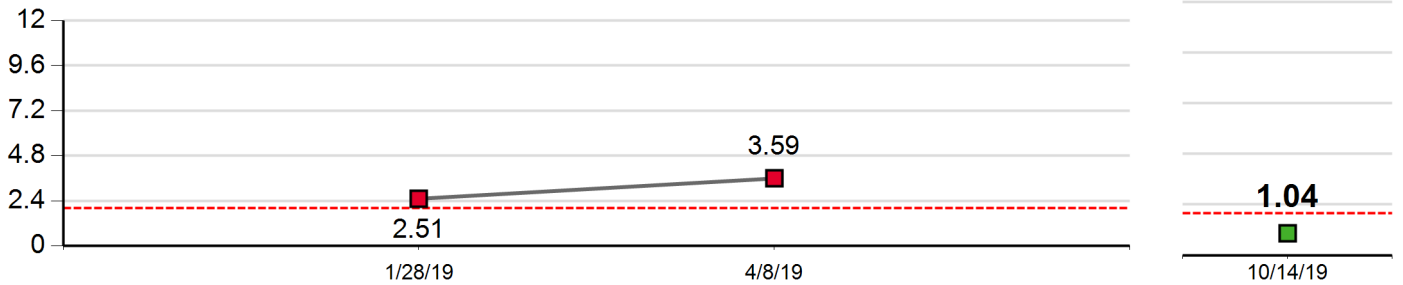
Access complete set of age- and/or gender-specific reference intervals for this test in the ARUP Laboratory Test Directory (aruplab.com).

Patient Historical Result Summary

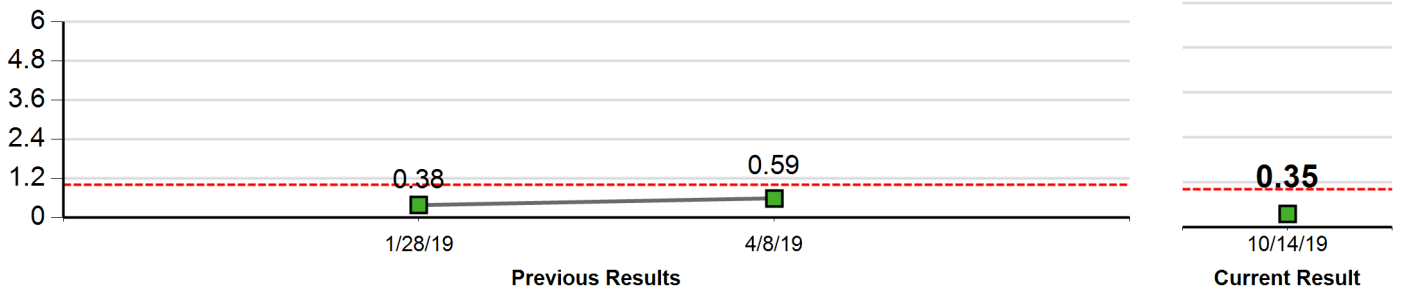
Calcium Oxalate



Calcium Hydrogen Phosphate



Uric Acid



Dashed line (---) = Results above this line indicate an increased risk for forming the particular calculi type.

Up to five consecutive test results are displayed on this chart; however, this result set may be incomplete due to variations in the demographic information submitted for prior tests. If the information shown on this chart appears incomplete, please consult this patient's prior charts.



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Supersaturation Profile, Urine

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Interpretive Information

This test predicts formation of calcium oxalate, calcium hydrogen phosphate (brushite), and uric acid calculi using concentrations of analytes measured in a 24-hour urine specimen. Analyte concentrations are used in a calculation to predict formation of complexes that may exceed their solubility and crystallize as renal calculi. Development of renal calculi is related to increased urine concentrations of stone-forming substances such as calcium, oxalate, urate, cystine, and xanthine. Low urine volume enhances calculus formation. High concentrations of citrate and magnesium in the urine decrease the probability of stone formation.

This profile does not include testing for magnesium ammonium phosphate (struvite) or cystine calculi. If struvite stones associated with bacterial urinary tract infection are suspected, urinalysis and urine culture are recommended. If cystine calculi are suspected (calculi formation in relatively young individuals or family history of cystinuria), order Cystine Quantitative, Urine (ARUP test #0081106).

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement B: aruplab.com/CS

Software Reference

Marangella M, Petrarulo M, Daniele PG, Sammartano S. LithoRisk: a software for calculating and visualizing nephrolithiasis risk profiles. *G Ital Nefrol* 2002; 19(6):693-8.



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