# Calculi Risk Assessment, Urine

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|---|---|---|
| **Patient:**<br>DOB: Age: 66 Gender: M<br>**Patient Identifiers:**<br>**Visit Number (FIN):** | Client:<br><br>Physician: | ARUP Test Code: 2008708<br><br>Collection Date: 10/16/2019<br>Received in lab: 10/17/2019<br>Completion Date: 10/20/2019 |

## Specimen Condition

| Analyte | Result | Units | Reference Interval | Effect |
|---|---|---|---|---|
| Hours Collected | 24 | h | 24 | Collection for 24 hours reflects daily excretion. |
| Total Volume | 2100 | mL | M 800-1800<br>F 600-1600 | Low urine volume (<1L/24h) promotes calculi formation. |
| pH | 5.70 | | 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 | 1743 | mg/d | 800-2100 | Excretion provides a measure of completeness of 24h urine collection. |

## Stone Formation Promoters

| Analyte | Result | Units | Reference Interval | Effect |
|---|---|---|---|---|
| Calcium[1] | 233 | mg/d | 100-250 | Hypercalciuria (>200 mg/d) promotes formation of CaOx and CaHPO4 stones. |
| Oxalate | 34 | mg/d | 16-49 | Hyperoxaluria (>40 mg/d) promotes formation of CaOx stones. |
| Phosphorus | 651 | mg/d | 400-1300 | Phosphorus forms insoluble complexes with calcium. |
| Sodium | 153 | mmol/d | 51-286 | Increased sodium promotes formation of CaOx and CaHPO4 stones. |
| Uric Acid | 485 | 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 | 517 | mg/d | 320-1240 | High citrate inhibits formation of CaOx and CaHPO4 stones. |
| Magnesium | 76 | mg/d | 12-199 | High magnesium inhibits formation of CaOx and CaHPO4 stones. |

## Other Components

| Analyte | Result | Units | Reference Interval | Effect |
|---|---|---|---|---|
| Potassium | 42 | mmol/d | 25-125 | Potassium forms soluble complexes. |
| Chloride | 145 | mmol/d | 140-250 | Chloride forms soluble complexes. |

[1]Average 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

No historical data found.

## Interpretive Information



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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



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