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**Lab Dept:** Urine/Stool

**Test Name:** CITRATE EXCRETION, PEDIATRIC RANDOM URINE

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***General Information***

**Lab Order Codes:** UCITR

**Synonyms:** Citric Acid, Urine; Urinary Citrate Excretion

**CPT Codes:** 82507 - Citrate

**Test Includes:** Urine Citrate concentration in mg/dL, Creatinine concentration in mg/dL and Citrate/Creatinine Ratio. Reference values are not established for random specimens.

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***Logistics***

**Test Indications:** Useful for diagnosing risk factors for patients with calcium kidney stones and for monitoring results of therapy in patients with calcium stones or renal tubular acidosis.

A timed 24-hour urine collection is the preferred specimen for measuring and interpreting this urinary analyte. Random collections normalized to urinary creatinine may be of some clinical use in patients who cannot collect a 24-hour specimen, typically small children. Therefore, this random test is offered for children <16 years old.

**Lab Testing Sections:** Urine/Stool - Sendouts

**Referred to:** Mayo Medical Laboratories (test #84773/RCITR)

**Phone Numbers:**

Minneapolis: 612-813-6280

Saint Paul: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** 1 - 3 days, test set up Monday – Saturday

**Special Instructions:** Submit an entire random urine collection. **Refrigerate specimen** during and after collection. See [Patient Preparation](#).

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***Specimen***

<b>Specimen Type:</b>	Urine, random collection
<b>Container:</b>	Plastic leakproof container
<b>Draw Volume:</b>	Submit an entire random collection
<b>Processed Volume:</b>	5.0 mL (Minimum: 1 mL) aliquot from a random urine collection
<b>Collection:</b>	Routine random urine collection
<b>Special Processing:</b>	Lab Staff: Mix the specimen well before taking 5 mL (Minimum: 1 mL) aliquot. Store and send refrigerated or frozen in a plastic, 6 mL urine tube Mayo Supply T465.
<b>Patient Preparation:</b>	Any drug that causes alkalemia or acidemia may be expected to alter citrate excretion and should be avoided, if possible.
<b>Sample Rejection:</b>	Specimens other than timed or random urine, warm specimens, unlabeled or mislabeled specimens

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### ***Interpretive***

**Reference Range:** No pediatric reference values at this time.

**Interpretation:**

A low value represents a potential risk for kidney stone formation/growth. Patients with low urinary citrate, and new or growing stone formation may benefit from adjustments in therapy known to increase urinary citrate excretion.

Very low levels suggest investigation for the possible diagnosis of metabolic acidosis (e.g., renal tubular acidosis).

For children ages 5 to 18, a ratio of <0.176 mg citrate/ mg creatinine is below the 5% reference range and considered low.

**Critical Values:** N/A

**Limitations:** Drugs that lower systemic pH, potassium, and/or magnesium lower urine citrate and are to be avoided in patients with tendency to calcium stones. Conversely, drugs that raise systemic pH, potassium, and/or magnesium may raise urine citrate and should be considered in treating patients or interpreting results.

**Methodology:** Enzymatic

**References:** [Mayo Medical Laboratories Web Page](#) January 2013