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**Lab Dept:** Urine/Stool

**Test Name:** OXALATE, TIMED URINE

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***General Information***

**Lab Order Codes:** OXU

**Synonyms:** Oxalate, 24-hour Urine

**CPT Codes:** 83945 - Oxalate

**Test Includes:** Urine oxalate concentration reported in mmol/24 hours and mg/24 hours from a 24 hour urine collection.

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***Logistics***

**Test Indications:** Useful for monitoring therapy for kidney stones in addition to identifying oxalate as a risk factor for stone formation. Diagnosis of primary or secondary hyperoxaluria.

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

**Referred to:** Mayo Clinic Laboratories (MML Test: OXU)

**Phone Numbers:** MIN Lab: 612-813-6280

STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** 3 - 5 days, test set up Monday - Saturday

**Special Instructions:** Submit an entire 24-hour urine collection. No preservative. Refrigerate specimen during and after collection. A 24-hour urine is required for this test.

See [Patient Preparation](#)

**Note:** Starting and ending times of collection are required for a timed urine collection and must be documented electronically or on the proper request form.

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***Specimen***

**Specimen Type:** Urine, timed collection

<b>Container:</b>	Plastic leak-proof container (No preservative). Urine GUARD® collection container is preferred for a timed urine sample.
<b>Draw Volume:</b>	Submit an entire 24-hour urine collection
<b>Processed Volume:</b>	4 mL (Minimum: 1 mL) urine from a well mixed 24 hr specimen
<b>Collection:</b>	For timed urine collections, empty the bladder, discard the voided sample, and note the start time. Collect all urine voided for the specified time period. The specimen must remain covered and protected from light at all times. At the end of the period, note the finishing time; add the last voided sample to the container by emptying the bladder. Bring the refrigerated container to the lab. Make sure all specimens submitted to the laboratory are properly labeled with the patient's name, medical record number and date of birth.
<b>Special Processing:</b>	<p>Lab Staff: Measure 24 hour urine and document volume. Mix well, then aliquot 4 mL (Minimum: 1 mL) into a plastic, 13 mL urine tube or a clean, plastic aliquot container with no metal cap or glued insert.</p> <p>Do NOT attempt to adjust pH as it will adversely affect results.</p> <p>Send specimen refrigerated. Forward promptly.</p> <p>Specimen stable refrigerated (preferred) or frozen for 14 days, ambient for 3 days.</p>
<b>Patient Preparation:</b>	Avoid taking large doses ( $\geq 2.0$ g orally/24 hours) of vitamin C during specimen collection. Patient <b>must</b> keep urine specimen jug refrigerated during entire collection period.
<b>Sample Rejection:</b>	Specimen collected or sent in a container with a metal cap is not acceptable, specimens other than urine, mislabeled or unlabeled specimens.

### ***Interpretive***

**Reference Range:** 0.11 – 0.46 mmol/24 h (9.7 - 40.5 mg/24 h)

The reference value is for a 24-hour collection.

**Interpretation:** An elevated urine oxalate ( $>0.46$  mmol/day) may suggest disease states such as secondary hyperoxaluria (fat malabsorption), primary hyperoxaluria (alanine glyoxalate transferase enzyme deficiency, glyceric dehydrogenase deficiency), idiopathic hyperoxaluria, or excess dietary oxalate or vitamin C intake.

In stone-forming patients high urinary oxalate values, sometimes even in the upper limit of the normal range, are treated to reduce the risk of stone formation.

<b>Critical Values:</b>	N/A
<b>Limitations:</b>	Ingestion of ascorbic acid (>2 g/24 hours) may falsely elevate the measured urinary oxalate excretion.
<b>Methodology:</b>	Enzymatic Using Oxalate Oxidase
<b>References:</b>	<a href="#">Mayo Clinic Laboratories</a> February 2024
<b>Updates:</b>	12/15/2015: Units update per MML. Previously reported as mmol/spec and mg/spec. 2/22/2024: Added specimen stability with updated alternative shipping temperature options. Added comment to not attempt to adjust pH.