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**Lab Dept:** Urine/Stool

**Test Name:** OROTIC ACID, URINE

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***General Information***

**Lab Order Codes:** ORAU

**Synonyms:** Orotic Acid, Urine

**CPT Codes:** 83921 - Organic acids; single, quantitative

**Test Includes:** Urine Orotic Acid concentration in mmol/mol creatinine

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***Logistics***

**Test Indications:** Useful for evaluation of the differential diagnosis of hyperammonemia and hereditary orotic aciduria.

When orotic acid is measured after a protein load or allopurinol administration, excretion of orotic acid is a very sensitive indicator of ornithine transcarbamylase (OTC) activity. The allopurinol test can be used to determine whether a female heterozygous for X-linked OTC deficiency when an OTC deficient patient has been identified in the family.

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

**Referred to:** Mayo Medical Laboratories (MML Test: 8905/OROT)

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

STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** 4 - 8 days, set up twice per week.

**Special Instructions:** Submit an entire 24-hour urine collection or 10 mL (Minimum: 3 mL) from a random urine collection. No preservative. Refrigerate specimen during and after collection.

**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***

<b>Specimen Type:</b>	Urine, random or timed collection
<b>Container:</b>	Plastic leakproof container (No preservative). Urine GUARD® collection container is preferred for a timed urine sample.
<b>Draw Volume:</b>	Entire timed or random specimen collection
<b>Processed Volume:</b>	10 mL (Minimum: 3 mL) from a random or timed urine collection
<b>Collection:</b>	A random urine sample may be obtained by voiding into a urine cup and is often performed at the laboratory. 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. 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>	Lab Staff: Timed collections: Mix specimen well, measure the total volume and record. For both timed and random specimens: Freeze 10 mL (Minimum: 3 mL) urine aliquot in a 13 mL plastic tube. Ship frozen. Forward promptly.
<b>Patient Preparation:</b>	None
<b>Sample Rejection:</b>	Specimens other than urine; warm specimens; mislabeled or unlabeled specimens

### ***Interpretive***

**Reference Range:**

<2 weeks:	1.4 – 5.3 mmol/mol creatinine
2 weeks – 1 year:	1.0 – 3.2 mmol/mol creatinine
2 – 10 years:	0.5 – 3.3 mmol/mol creatinine
≥11 years:	0.4 – 1.2 mmol/mol creatinine

**Critical Values:** N/A

**Limitations:** N/A

**Methodology:** Colorimetric

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