
Lab Dept: Urine/Stool

Test Name: MAGNESIUM, 24 HOUR URINE

General Information

Lab Order Codes: UMGQ

Synonyms: Mg, Quantitative Urine; Magnesium, Timed Urine

CPT Codes: 83735 – Magnesium
81050 – Volume measurement for timed collection

Test Includes: Urine magnesium in mEq/L and mEq/collection

Logistics

Test Indications:

- Assessing the cause of abnormal serum magnesium concentrations.
- Determining whether nutritional magnesium loads are adequate.
- Calculating urinary calcium oxalate and calcium phosphate supersaturation and assessing kidney stone risk.

Lab Testing Sections: Chemistry

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: 1-2 days

Special Instructions: Submit an entire 24-hour 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.

Specimen

Specimen Type: Urine, 24 hour collection
Note: A 24 hour urine collection is required.

Container: Plastic leakproof container (No preservative). Urine GUARD® collection container is preferred for a timed urine sample.

Draw Volume: Submit an entire 24-hour urine collection

Processed Volume:	4 mL (Minimum: 1 mL) urine from a well-mixed 24 hour collection
Collection:	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.
Special Processing:	Lab Staff: Measure total volume of specimen submitted and record during specimen decant. Order code PVSO to record the Urine Volume and Collection Duration as 24. Store and ship refrigerated.
Patient Preparation:	None
Sample Rejection:	Mislabeled or unlabeled specimens; collection <24 hours

Interpretive

Reference Range:	51 – 269 mg/24 hours Reference values have not been established for patients <18 years and >83 years of age. Interpretation: Urinary magnesium excretion should be interpreted in concert with serum concentrations. In the presence of hypomagnesemia, a 24 hour urine magnesium >24 mg/day or fractional excretion >0.5% suggests renal magnesium wasting. Lower values suggest inadequate magnesium intake and/or gastrointestinal losses. In the presence of hypermagnesemia, urinary magnesium levels provide an indication of current magnesium intake. Lower urinary magnesium excretion increases urinary calcium oxalate and calcium phosphate supersaturation and could contribute to kidney stone risk.
Critical Values:	N/A
Limitations:	Urinary magnesium excretion must be interpreted with caution during periods of intravenous magnesium infusion.
Methodology:	Colorimetric Endpoint Assay
References:	Mayo Clinic Laboratories October 2020
Updates:	12/10/2013: Move from mEq/L to mg/dL. Reference range updated. 9/28/2017: Updated lab processing. 10/12/2020: Test previously performed in-house, now referred to Mayo.