MAYO CLINIC LABORATORIES

Test Definition: POU

Phosphorus, 24 Hour, Urine

Overview

Useful For

Evaluation of hypo- or hyper-phosphatemic states

Evaluation of patients with nephrolithiasis

Special Instructions

- Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens

Method Name

Photometric

NY State Available

Yes

Specimen

Specimen Type

Urine

Necessary Information

24-Hour volume (in milliliters) is required.

Specimen Required

Supplies: Sarstedt 5 mL Aliquot Tube (T914)
Collection Container/Tube: 24-Hour graduated urine container with no metal cap or glued insert
Submission Container/Tube: Plastic, 5 mL tube or a clean, plastic aliquot container with no metal cap or glued insert
Specimen Volume: 4 mL
Collection Instructions:
1. Collect urine for 24 hours.
2. Refrigerate specimen within 4 hours of completion of 24-hour collection.
Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens for multiple collections.

Forms

If not ordering electronically, complete, print, and send a Renal Diagnostics Test Request (T830) with the specimen.

Urine Preservative Collection Options

Note: The addition of preservative or application of temperature controls **must occur within 4 hours of completion** of the collection.

Ambient (no additives)	OK
Refrigerate (no additives)	Preferred
Frozen (no additives)	OK
50% Acetic Acid	OK
Boric Acid	OK
Diazolidinyl Urea	OK
6M Hydrochloric Acid	OK
6M Nitric Acid	No
Sodium Carbonate	No
Toluene	No

Specimen Minimum Volume

1 mL

Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Urine	Refrigerated (preferred)	14 days	
	Ambient	7 days	
	Frozen	30 days	

Clinical & Interpretive

Clinical Information

Approximately 80% of filtered phosphorus is reabsorbed by renal proximal tubule cells. The regulation of urinary phosphorus excretion is principally dependent on regulation of proximal tubule phosphorus reabsorption. A variety of factors influence renal tubular phosphate reabsorption and consequent urine excretion. Factors that increase urinary phosphorus excretion include high phosphorus diet, parathyroid hormone, extracellular volume expansion, low dietary potassium intake, and proximal tubule defects (eg, Fanconi Syndrome, X-linked hypophosphatemic Rickets, tumor-induced osteomalacia). Factors that decrease, or are associated with decreases in, urinary phosphorus excretion include low dietary phosphorus intake, insulin, high dietary potassium intake, and decreased intestinal absorption of phosphorus (eg, phosphate-binding antacids, vitamin D deficiency, malabsorption states).

A renal leak of phosphate has also been implicated as contributing to kidney stone formation in some patients.

Reference Values

> or =18 years: 226-1,797 mg/24 hours

Reference values have not been established for patients who are less than 18 years of age.

Interpretation
Interpretation of urinary phosphorus excretion is dependent upon the clinical situation, and should be interpreted in conjunction with the serum phosphorus concentration.

Cautions
No significant cautionary statements

Clinical Reference
1. Delaney MP, Lamb EJ: Kidney disease. In: Rifai N, Horvath AR, Wittwer CT, eds: Tietz Textbook of Clinical Chemistry and Molecular Diagnostics. 6th ed. Elsevier; 2018:1280-1283
2. Agarwal R, Knochel JP: Hypophosphatemia and hyperphosphatemia. In: Brenner BM, ed. The Kidney. 6th ed. WB Saunders Company; 2000:1071-1125

Performance

Method Description
Inorganic phosphate forms an ammonium phosphomolybdate complex with ammonium molybdate in the presence of sulfuric acid. The concentration of phosphomolybdate formed is directly proportional to the inorganic phosphate concentration and is measured photometrically.(Package insert: Phosphate (Inorganic). Roche Diagnostics; 10/2023)

PDF Report
No

Day(s) Performed
Monday through Sunday

Report Available
1 to 3 days

Specimen Retention Time
7 days

Performing Laboratory Location
Mayo Clinic Laboratories - Rochester Main Campus

Fees & Codes

Fees
- Authorized users can sign in to Test Prices for detailed fee information.
- Clients without access to Test Prices can contact Customer Service 24 hours a day, seven days a week.
- Prospective clients should contact their account representative. For assistance, contact Customer Service.

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Test Classification

This test has been cleared, approved, or is exempt by the US Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information

84105

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
POU	Phosphorus, 24 HR, U	2779-7

Result ID	Test Result Name	Result LOINC® Value
POUU	Phosphorus, 24 HR, U	2779-7
TM12	Collection Duration	13362-9
VL10	Urine Volume	3167-4
PHOCN	Phosphorus Concentration	21458-5