Overview

Useful For
Assessment of patients with metabolic acidosis
Assessment of crystalluria

Monitoring the effectiveness of alkalinization or acidification of urine for certain medical conditions (eg, treatment of uric acid nephrolithiasis)

Method Name
pHmeter

NY State Available
Yes

Specimen

Specimen Type
Urine

Specimen Required

Supplies: Urine Tubes, 10 mL (T068)
Container/Tube: Plastic, 10-mL urine tube

Specimen Volume: 10 mL

Collections Instructions: Collect a random urine specimen.

Specimen Minimum Volume
1 mL

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

Specimen Stability Information

<table>
<thead>
<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urine</td>
<td>Refrigerated (preferred)</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td>7 days</td>
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</tr>
</tbody>
</table>

Clinical and Interpretive

Clinical Information
Urine pH is a measure of the acidity/alkalinity of urine and, by itself, usually provides little useful information. Under
Test Definition: PHU_
pH, Random, U

normal conditions its value is influenced by the type of diet (some diets: eg, diets rich in meat-having more acid content than others; eg, vegetarian diets). Assessment of urine pH may be useful in the evaluation of systemic acid-base disorder. For example, the normal response during metabolic acidosis is a lowering of the urine pH to less than 5. If it is greater than 5, then a defect in urine acidification should be considered. Often a urine pH above 8 is suggestive of infection of a urea splitting organism such as proteus mirabilis. Monitoring of urine pH may also be helpful during therapeutic interventions to either alkaline the urine (such as for treatment of uric acid nephrolithiasis) or acidify the urine. Finally, when assessing crystalluria, noting the urine pH may be helpful since some crystals have a propensity to form in alkaline urine while others form in relative acidic urine.

Reference Values
4.5 to 8.0

Interpretation
Dependent on clinical condition.

Cautions
A pH greater than 8 suggests the presence of urinary tract infection with a urea splitting organism.

Clinical Reference


Performance

Method Description
The pH meter is composed of a glass electrode, calomel electrode and voltmeter. The glass electrode has a fixed acid concentration, yielding a corresponding voltage. The calomel electrode is the reference electrode. Its voltage is independent of the H+ ion concentration. The two electrodes constitute a galvanic cell whose electromotive force is measured by the voltmeter. The meter is calibrated to read in pH units, reflecting the H+ ion concentration. The meter is used to determine pH in 0 to 14 range.(Instruction manual: Fisher Scientific accumet Basic (AB) Benchtop Meters. Fisher Scientific; 68x613601.0 07/2012)

PDF Report
No

Day(s) Performed
Monday through Sunday

Report Available
1 day

Specimen Retention Time
Test Definition: PHU_
pH, Random, U

2 days

Performing Laboratory Location
Rochester

Fees and 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 Regional Manager. For assistance, contact Customer Service.

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
83986

LOINC® Information

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<th>Test ID</th>
<th>Test Order Name</th>
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<td>PHU_</td>
<td>pH, Random, U</td>
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<table>
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<tr>
<td>PHU_</td>
<td>pH, Random, U</td>
<td>2756-5</td>
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