Overview

Useful For
Diagnosis of orthostatic proteinuria
As a second-order test for additional characterization of proteinuria of less than 3 grams/24 hours, particularly in children or adolescents

Profile Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Reporting Name</th>
<th>Available Separately</th>
<th>Always Performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOPTU</td>
<td>Daytime Orthostatic Protein, U</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>NOPTU</td>
<td>Nighttime Orthostatic Protein, U</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Special Instructions

- Orthostatic Protein Measurement 24-Hour Urine: Collection Site Instructions
- Orthostatic Protein Measurement 24-Hour Urine: Patient Collection Instructions

Method Name
Turbidimetry

NY State Available
Yes

Specimen

Specimen Type
Urine

Advisory Information
This collection process requires 2 separate urine collections within a 24-hour period.

Collect specimen per instructions in Orthostatic Protein Measurement 24-Hour Urine: Collection Site Instructions (T546) in Special Instructions.

Necessary Information
This collection process requires 2 separate urine collections within a 24-hour period.

- Submit start and end times for collection and 16-hour volume (required).
- Submit start and end times for collection and 8-hour volume (required).

Specimen Required
Supplies: 2 Aliquot Tube, 5 mL (T465)
Daytime Collection

**Container/Tube:** Plastic, 5-mL tube (T465)

**Specimen Volume:** 4 mL

**Collection Instructions:**

1. Collect a 16-hour (daytime) urine specimen.
2. No preservative.
3. Invert well before taking 4-mL aliquot.
4. Do not over fill aliquot tube 4 mL at most.
5. Collect specimen per instructions in [Orthostatic Protein Measurement 24-Hour Urine: Collection Site Instructions](T546) in Special Instructions.

Nighttime (Supine) Collection

**Container/Tube:** Plastic, 5-mL tube (T465)

**Specimen Volume:** 4 mL

**Collection Instructions:**

1. Collect an 8-hour (nighttime) urine specimen.
2. No preservative.
3. Invert well before taking 4-mL aliquot at most.

**Forms**

1. [Orthostatic Protein Measurement 24-Hour Urine: Patient Collection Instructions](T546) in Special Instructions
2. If not ordering electronically, complete, print, and send a [Renal Diagnostics Test Request](T830) (T830) with the specimen.

**Specimen Minimum Volume**

1 mL from 16-hour (daytime) urine collection/1 mL from 8-hour (nighttime) urine collection

**Reject Due To**

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

**Specimen Stability Information**

<table>
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<tr>
<th>Specimen Type</th>
<th>Temperature</th>
<th>Time</th>
<th>Special Container</th>
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<tr>
<td>Urine</td>
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<td>14 days</td>
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Clinical and Interpretive

Clinical Information
Orthostatic proteinuria refers to the development of increased proteinuria that develops only when the person is upright and resolves when recumbent or supine. This condition is usually seen in children, adolescents, or young adults, and accounts for the majority of cases of proteinuria in childhood.

Orthostatic proteinuria usually does not indicate significant underlying renal pathology, and is usually not associated with other urine abnormalities such as hypoalbuminemia, hematuria, red blood cell casts, fatty casts, etc. Orthostatic proteinuria typically resolves over time.

This test characterizes this condition by obtaining 2 urine collections within a 24-hour time frame, 1 collection obtained while the person is recumbent or supine, the other when upright.

Reference Values
Nighttime (supine) collection: <68 mg/8 hours

Reference values have not been established for patients <18 years of age.

Daytime collection: <197 mg/16 hours

Reference values have not been established for patients <18 years of age

Interpretation
A supine 8-hour urine protein excretion of less than 68 mg/8 hours together with either 1) an elevated upright (16-hour) excretion of greater than 197 mg/16 hours, or 2) a 24-hour urine protein excretion of greater than 228 mg/24 hours is considered consistent with orthostatic proteinuria.

Cautions
It is not unusual for urine protein excretion derived from supine collections to be somewhat lower than protein excretion derived from upright collections. However, orthostatic or postural proteinuria is characterized by a supine excretion rate of less than 50 mg/8 hours.

False-proteinuria may be due to contamination of urine with menstrual blood, prostatic secretions, or semen.

The urinary protein concentration may rise to 300 mg/24 hours in healthy individuals after vigorous exercise.

Normal newborn infants may have higher excretion of protein in urine during the first 3 days of life.

The presence of hemoglobin elevates protein concentration.

Samples should be collected before fluorescein is given or not collected until at least 24 hour later.

Protein electrophoresis and immunofixation may be required to characterize and interpret the proteinuria.
Clinical Reference

Performance

Method Description
Turbidimetric method; the sample is pre-incubated in an alkaline solution containing EDTA, which denatures the protein and eliminates interference from magnesium ions. Benzethonium chloride is then added, producing turbidity. (Package insert: Roche Diagnostics Total Protein Urine/CSF Gen.3)

PDF Report
No

Day(s) and Time(s) Test Performed
Monday through Sunday; Continuously

Analytic Time
Same day/1 day

Maximum Laboratory Time
4 days

Specimen Retention Time
7 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 Definition: OPTU
Orthostatic Protein, U

Test Classification
This test has been cleared, approved or is exempt by the U.S. 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
84156 x 2

LOINC® Information

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