Test Definition: NITU  
Nitrogen, Total, U

Overview

Useful For
Assessing nutritional status (protein malnutrition)
Assessment of protein nutrition and nitrogen balance in hospitalized patients
Evaluating protein catabolism
Determining nitrogen balance, when used in conjunction with 24-hour fecal nitrogen measurement

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

Method Name
DumasCombustion

NY State Available
Yes

Specimen

Specimen Type
Urine

Necessary Information
24-Hour volume is required.

Specimen Required
Supplies: Urine Tubes, 10 mL (T068)

Container/Tube: Plastic, 10-mL urine tube

Specimen Volume: 10 mL

Collection Instructions:
1. Collect urine for 24 hours.
2. No preservative. Refrigerated is the preferred preservation method.

Additional Information: See Urine Preservatives-Collection and Transportation for 24-Hour Urine Specimens in Special Instructions for multiple collections.

Urine Preservative Collection Options

Note: The addition of preservative or application of temperature controls must occur within 4 hours of completion of the collection.
### 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>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frozen</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Clinical and Interpretive

**Clinical Information**

Nitrogen is a key component of proteins. Nitrogen balance is the difference between the amount of nitrogen ingested and the amount excreted in the urine and feces. A majority of nitrogen is excreted as urea in the urine; however, fecal nitrogen can account for 30% to 50% of total nitrogen excretion.

A patient who is in negative nitrogen balance is catabolizing muscle protein to meet the metabolic requirements of the protein catabolism and, therefore, urine and fecal nitrogen may be increased due to stress, physical trauma, surgery, infections, burns, and 11-oxysteroid or thyroxine use. Testosterone and growth hormone have anabolic effects on protein synthesis and may decrease urine and fecal nitrogen.

In the course of chronic progressive pancreatitis, as the pancreas is destroyed, serum amylase and lipase may revert to normal. However, excessive fecal nitrogen levels persist and are used as an indicator of pancreatic atrophy.

**Reference Values**

<16 years: not established
**Interpretation**

Urinary nitrogen excretion levels within the normal range are indicative of adequate nutrition. Slightly abnormal excretion rates may be a result of moderate stress or complications such as infection or trauma. Significantly abnormal excretion rates may be associated with severe stress due to multiple trauma, head injury, sepsis, or extensive burns. The goal with therapy for a depleted person is a positive nitrogen balance of 4 to 6 g nitrogen/24 hours.

**Cautions**

Measurement of both urine and fecal nitrogen is necessary for the accurate determination of nitrogen balance.

During nitrogen balance studies, nitrogen lost from exuding wounds, such as burns, and from copious sputum must be included in the patient's evaluation.

**Clinical Reference**


**Performance**

**Method Description**

The nitrogen analyzer utilizes the Dumas combustion method of determining total nitrogen in urine."Unpublished Mayo method"

**PDF Report**

No

**Day(s) and Time(s) Test Performed**

Friday; 8 a.m.

**Analytic Time**

1 day

**Maximum Laboratory Time**

5 days

**Specimen Retention Time**

1 week

**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 was developed and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

CPT Code Information
84999

LOINC® Information

<table>
<thead>
<tr>
<th>Test ID</th>
<th>Test Order Name</th>
<th>Order LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>NITU</td>
<td>Nitrogen, Total, U</td>
<td>2660-9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result ID</th>
<th>Test Result Name</th>
<th>Result LOINC Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>17418</td>
<td>Nitrogen, Total, U</td>
<td>2660-9</td>
</tr>
<tr>
<td>DUR8</td>
<td>Collection Duration</td>
<td>13362-9</td>
</tr>
<tr>
<td>TOTV</td>
<td>Specimen Volume</td>
<td>28009-9</td>
</tr>
</tbody>
</table>