Overview

Useful For
Determining nitrogen balance, when used in conjunction with 24-hour urine nitrogen measurement
Assessing nutritional status (protein malnutrition)
Evaluating protein catabolism

Genetics Test Information

Method Name
DumasCombustion

NY State Available
Yes

Specimen

Specimen Type
Fecal

Shipping Instructions
Send entire stool collection (must contain at least 5 g of feces) frozen on dry ice in Mayo Clinic Laboratories-approved container.

Necessary Information
Length of collection period is required.

Specimen Required
Patient Preparation: Laxatives and enemas should not be used during collection.

Supplies: Stool Containers - 24, 48, 72 Hours Kit (T291)

Container/Tube: Stool container (T291); complies with shipping requirements, do not use other containers.

Specimen Volume: Entire collection (24, 48, 72, or 96 hour)

Collection Instructions:
1. Entire collection must be submitted which should contain at least 5g to 10 g of feces.
2. See Stool Collection Information Sheet in Special Instructions

Additional Information: Barium and boric acid interfere with test procedure.

Specimen Minimum Volume
2.5 g
Test Definition: NITF
Nitrogen, Total, F

Reject Due To

<table>
<thead>
<tr>
<th>Other</th>
<th>Mixed fecal/urine</th>
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</table>

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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<tbody>
<tr>
<td>Fecal</td>
<td>Frozen (preferred)</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Ambient</td>
<td>7 days</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refrigerated</td>
<td>7 days</td>
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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
> or =16 years: 1-2 g/24 hours

Interpretation
Average fecal nitrogen excretion is approximately 1 to 2 g N/24 hours. Significantly abnormal excretion rates, resulting in negative nitrogen balance, may be associated with severe stress due to multiple trauma, head injury, sepsis, or extensive burns. Elevated values above 2.5 g N/24 hours may be consistent with chronic progressive pancreatitis. The goal with therapy for a depleted person is a positive nitrogen balance of 4 to 6 g N/24 hours.

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

Specify length of collection period (duration of either 24, 48, 72, or 96 hour) for entire stool specimen.

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
1. Morse, MH, et al: Protein requirement of elderly women: nitrogen balance responses to three levels of protein


Performance

Method Description

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
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<th>Order LOINC Value</th>
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<tr>
<td>NITF</td>
<td>Nitrogen, Total, F</td>
<td>16141-4</td>
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<td>DUR9</td>
<td>Collection Duration</td>
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<td>17416</td>
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