

## Overview

### Useful For

Detecting mercury exposure in nail specimens

### Special Instructions

- [Collecting Hair and Nails for Metals Testing](#)

### Method Name

Triple-Quadrupole Inductively Coupled Plasma Mass Spectrometry (ICP-MS/MS)

### NY State Available

No

## Specimen

### Specimen Type

Nail

### Necessary Information

Indicate source of nails (fingernails or toenails), if known.

### Specimen Required

**Supplies:** Hair and Nails Collection Kit (T565)

**Source:** Fingernails or toenails

**Specimen Volume:** 0.2 g

#### Collection Instructions:

1. Prepare and transport specimen per the instructions in the kit or see [Collecting Hair and Nails for Metals Testing](#).
2. Clippings should be taken from all 10 fingernails or toenails.

### Specimen Minimum Volume

0.05 g

### Reject Due To

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

### Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Nail	Ambient (preferred)		
	Refrigerated		

Frozen

## Clinical & Interpretive

### Clinical Information

[Once absorbed and circulating, mercury becomes bound to numerous proteins, including keratin. The concentration of mercury in nails correlates with the severity of clinical symptoms.](#)

### Reference Values

0-15 years: Not established

> or =16 years: <1.0 mcg/g of nails

### Interpretation

Normally, nails contain less than 1 mcg/g of mercury; any amount more than this indicates that exposure to more than normal amounts of mercury may have occurred.

### Cautions

No significant cautionary statements.

### Clinical Reference

1. Marques RC, Dorea JG, Bastos WR, Malm O. Changes in children hair-Hg concentrations during the first 5 years: maternal, environmental and iatrogenic modifying factors. *Regul Toxicol Pharmacol.* 2007;49(1):17-24
2. Canuel R, de Grosbois SB, Atikesse L, et al. New evidence on variations of human body burden of methylmercury from fish consumption. *Environ Health Perspect.* 2006;114(2):302-306
3. Strathmann FG, Blum LM. Toxic elements. In: Rifai N, Chiu RWK, Young I, Burnham CAD, Wittwer CT, eds. *Tietz Textbook of Laboratory Medicine.* 7th ed. Elsevier; 2023:chap 44

## Performance

### Method Description

The metal analytes of interest are analyzed by triple-quadrupole inductively coupled plasma mass spectrometry.(Unpublished Mayo method).

### PDF Report

No

### Day(s) Performed

Wednesday

### Report Available

2 to 14 days

### Specimen Retention Time

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14 days

**Performing Laboratory Location**

Mayo Clinic Laboratories - Rochester Superior Drive

**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](#).

**Test Classification**

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

**CPT Code Information**

83825

**LOINC® Information**

Test ID	Test Order Name	Order LOINC® Value
HGNA	Mercury, Nails	8204-0

Result ID	Test Result Name	Result LOINC® Value
2509	Mercury, Nails	8204-0
HGNSC	Specimen Source	31208-2