

**Test Definition: HGNA** 

Mercury, Nails

## 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		



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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. Reg 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 (Unpublished Mayo method).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 <u>Test Prices</u> for detailed fee information.
- Clients without access to Test Prices can contact <u>Customer Service</u> 24 hours a day, seven days a week.
- Prospective clients should contact their account representative. For assistance, contact <u>Customer Service</u>.

#### **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