



# Heavy Metals & Toxic Elements Testing

## Take Action Against Environmental Toxins

Increasing levels of pollution and use of chemicals in industry has caused a rise in heavy metal toxicity which is a growing threat to our health. Toxicity may be difficult to recognized as early signs and symptoms can be similar to other health conditions.

Common Toxin	Chronic Health Effects	Primary Sources
Arsenic	Peripheral vascular disease, skin lesions, hearing loss, reproductive toxicity, hematologic disorders, neurological diseases, GI-damage	Pesticides, herbicides, wood preservative, glass/copper smelters, coal combustion
Lead	Cancers, kidney damage, neurological diseases, impaired intellectual ability and behavioral problems especially in children	Batteries, sinkers in fishing, water from lead pipes, lead-based paints, ceramics, leaded gasoline, lead-soldered food cans, automobile exhaust, make-up with lead
Cadmium	Cancers, kidney damage, bronchiolitis, COPD, emphysema, fibrosis, skeletal and joint damage	Tannery, smelter, mining, electroplating, pigments (Cd yellow), plastics, furniture with fire retardants
Mercury	Lung damage, kidney damage, neurological diseases, impaired intellectual ability and behavioral problems, eczema, oral lichen, vision impairment	Dental fillings, plastic, paints, antiseptic, scientific instruments, photography, fuel combustion, incineration of municipal waste, electrical wastes and mercury bulbs

### References:

Keil, D.E., Berger-Ritchie J., McMillin G.A.; *Testing for Toxic Elements: A focus on Arsenic, Cadmium, Lead and Mercury*; *Laboratory Medicine*, Volume 42, Issue 12, December 2011, pages 735-742

May, Mike., *ICP-MS Technology, Lab Compare*, October 2016 *Journal of Toxicology* Volume 2011 (2011), Article ID 870125, 21 pages <http://dx.doi.org/10.1155/2011/870125>



# Heavy Metals and Toxic Elements Test

*Test for Blood or Urine Samples:*

- ✓ Aluminum
- ✓ Lead
- ✓ Silver
- ✓ Arsenic
- ✓ Mercury
- ✓ Cadmium
- ✓ Tin

Analytical Method: ICP-MS (Inductively Coupled Plasma-Mass Spectrometry), the most advanced technology and gold standard in heavy metals testing.

## When to consider heavy metals testing?

*Consider heavy metals testing when you experience the following:*

- ✓ Long term exposure to pollution and industrial areas
- ✓ Consistent Headache and Fatigue
- ✓ Consistent High Blood Pressure and Numbness of Hands and Feet
- ✓ Normal Blood Tests but still unwell
- ✓ Hardened skin patches and white bands on fingernails
- ✓ Abdominal or Chest Pain



MetaMetrics is a DOH- Certified  
Specialty Clinical Laboratory

## Sample Test Result:

### RP08 Heavy Metals and Toxic Elements

PATIENT INFORMATION		TEST INFORMATION	
Name: Juan Dela Cruz		Request No. 2018000334	
Client Code:		Specimen Collected: WB, S, U	
Gender: Male	Date of Birth: 06/25/1977	Date Collected: 12/14/2018	
Referring Clinic/Institution: CUS-100002		Date Received: 06/16/2020	
Referring Physician: John Doe		Date of Report: 06/16/2020	

### TEST RESULTS

ELEMENT	REF. RANGE	RESULT	DETECTED	EXCESS
Aluminum in Blood	≤ 20.00 ug/L	20.00 ug/L	●	
Cadmium in Blood	≤ 4.90 ug/L	4.00 ug/L	●	
Lead in Blood	≤ 50.00 ug/L	50.00 ug/L	●	
Mercury in blood	≤ 9.00 ug/L	9.00 ug/L	●	
Tin in blood	≤ 5.00 ug/L	BDL ug/L		
Arsenic in Blood	≤ 12.00 ug/L	13.00 ug/L		●