

Health Concerns Associated with Exposure to Toxic Metals*

Acne

- Cadmium¹
- Lead^{1,2}
- Lithium^{3,4}
- Mercury²

ADHD

- Arsenic⁵
- Cadmium⁵
- Lead⁶⁻¹¹
- Mercury⁵

Ageusia

- Arsenic¹²

Allergies

- Antimony¹³
- Arsenic^{13,14}
- Cadmium^{13,15,16}
- Chromium¹⁴
- Lead¹³⁻²⁰
- Mercury^{13,14}
- Molybdenum¹³
- Tungsten^{13,20}
- Uranium¹³

Alopecia, Hair Loss

- Arsenic²¹
- Cadmium²²
- Cobalt²²
- Copper²²
- Lead²²
- Lithium³
- Mercury²¹
- Selenium Toxicity²¹
- Thallium²¹

Alzheimer's Disease

- Aluminum²³⁻²⁹
- Arsenic^{30,31}
- Cadmium^{32,33}
- Copper³⁴
- Iron³⁴
- Mercury³⁵⁻³⁸

Amyotrophic Lateral Sclerosis (ALS)

- Aluminum³⁹⁻⁴¹
- Arsenic^{40,41}
- Cadmium³⁹⁻⁴¹
- Chromium⁴¹
- Cobalt^{39,41}
- Copper^{39,41}
- Iron⁴¹
- Lead³⁹⁻⁴²
- Manganese⁴¹
- Mercury^{40,41}
- Nickel⁴¹
- Selenium⁴¹
- Uranium³⁹⁻⁴¹
- Vanadium⁴¹

Anemia

- Aluminum⁴³⁻⁴⁵
- Arsenic^{46,47}
- Cadmium⁴⁸
- Lead⁴⁹⁻⁵²

Anxiety

- Antimony⁵³
- Arsenic⁵⁴
- Cadmium^{53,55}
- Cobalt⁵³
- Lead⁵⁶⁻⁵⁸
- Tungsten⁵³
- Uranium⁵³

Arrhythmias

- Aluminum^{59,60}
- Arsenic⁶¹⁻⁶³
- Lithium⁶⁴

Asthma

- Aluminum^{45,65}
- Arsenic^{66,67}
- Cadmium⁶⁸⁻⁷¹
- Chromium^{65,71}
- Cobalt^{70,65}
- Copper^{71,72}
- Lead^{68,73,74}

- Manganese⁷⁵
- Mercury⁶⁸
- Molybdenum⁷¹
- Nickel^{65,72,76}
- Platinum⁶⁵
- Uranium^{71,77}

Atherosclerosis

- Antimony⁷⁸
- Arsenic^{61,63,78-81}
- Barium⁷⁸
- Cadmium^{80,81}
- Cesium⁷⁸
- Lead^{80,81}
- Mercury⁸²
- Thallium⁷⁸

Autism

- Aluminum^{23,29,83,84}
- Antimony⁸³
- Arsenic^{5,83-86}
- Barium⁸³
- Cadmium^{5,83,84,85,87}
- Cobalt⁸⁶
- Copper⁸⁶
- Lead^{5,83,84,85,86,87}
- Manganese^{5,86}
- Mercury^{5,83,85,88,89}
- Nickel⁸⁶
- Thallium⁸³
- Tin⁸³
- Tungsten⁸³
- Vanadium⁸⁶
- Zirconium⁸³

Autoimmune Disease

- Antimony⁹⁰
- Arsenic⁹¹
- Cadmium⁹⁰
- Lead⁹⁰
- Mercury⁹²
- Palladium⁹³
- Tungsten⁹⁰
- Uranium⁹⁰

Bone disorders

- Aluminum^{23,43,44, 45,94}
- Antimony⁹⁵
- Arsenic^{46,94,96}
- Cadmium^{94,96-99}
- Chromium⁹⁴
- Lead⁹⁷
- Nickel¹⁰⁰
- Tungsten⁹⁶

Cancer

- Aluminum^{23,101}
- Arsenic^{65,101-104}
- Beryllium^{65,101}
- Cadmium^{98,65,101,104,105}
- Chromium^{65,103,104}
- Lead^{101,104,106}
- Mercury^{101,102,107}
- Nickel^{65,101,103,106}
- Uranium^{108,109}

Chronic Kidney Disease (CKD)

- Arsenic^{110,111}
- Cadmium^{98,110-112}
- Lead^{110,111}
- Thallium¹¹³

Cognitive Dysfunction

- Aluminum²³
- Arsenic^{54,114}
- Barium^{115,116}
- Cadmium¹¹⁴⁻¹¹⁷
- Cesium¹¹⁶
- Cobalt¹¹⁶
- Lead^{114,115,117}
- Manganese¹¹⁶
- Thallium¹¹⁶
- Tungsten^{114,115}

Cough

- Arsenic¹²
- Cadmium¹¹⁸
- Chromium¹¹⁸
- Lead¹¹⁸
- Manganese¹¹⁸

Depression

- Aluminum¹¹⁹
- Antimony¹²⁰
- Arsenic^{54,102,119,121}
- Cadmium¹¹⁹
- Lead^{56,58,119,121}
- Manganese¹²²
- Mercury¹¹⁹
- Tin¹²²

Dermatitis/Eczema

- Antimony¹²³⁻¹²⁵
- Arsenic¹²⁵⁻¹²⁷
- Cadmium^{128,129}
- Chromium¹²⁵
- Cobalt¹³⁰
- Lead^{125,128}
- Lithium³
- Mercury¹²⁹
- Nickel^{128,131}
- Vanadium¹³²

Diabetes

- Aluminum²³
- Antimony¹³³
- Arsenic^{134,135}
- Barium¹³³
- Cadmium^{98,134,136}
- Lead¹³⁵
- Mercury¹³⁵
- Molybdenum¹³³
- Nickel¹³⁷⁻¹³⁹
- Tin^{135,140}
- Tungsten¹³³
- Uranium¹³³

Endometriosis

- Arsenic¹⁴¹
- Cadmium¹⁴¹⁻¹⁴⁴
- Copper^{145,146}
- Lead^{141,144}
- Mercury¹⁴¹
- Nickel¹⁴⁷

Erectile Dysfunction

- Antimony¹⁴⁸
- Cadmium¹⁴⁹

- Cobalt¹⁴⁸
- Lithium¹⁵⁰

Fatigue (Chronic Fatigue Syndrome)

- Cadmium¹⁵¹
- Lead¹⁵²
- Mercury^{153,154}
- Nickel^{151,154}
- Palladium^{151,154}
- Platinum¹⁵⁴
- Tin¹⁵⁴
- Titanium¹⁵⁴

Fibromyalgia

- Cadmium^{92,155}
- Lead^{92,155}
- Mercury^{92,155}
- Nickel^{92,155}

Gastrointestinal Symptoms & Disorders

- Aluminum^{44,45}
- Arsenic¹⁵⁶
- Lead^{151,152,157,158}

Gout

- Cadmium⁹²
- Lead⁹²
- Mercury⁹²

Headaches/Migraines

- Arsenic¹⁵⁹
- Cadmium¹⁶⁰
- Cobalt¹⁵⁹
- Gadolinium¹⁶¹
- Lead¹⁵⁹
- Mercury¹⁶²
- Nickel¹⁵⁹

Hearing Loss

- Arsenic¹²
- Cadmium¹⁶³
- Gadolinium¹⁶¹
- Lead^{111,163}
- Platinum¹⁶⁴⁻¹⁶⁶

Heart Failure

- Aluminum¹⁶⁷
- Arsenic^{62,167,168}
- Cadmium^{80,167-170}
- Lead¹⁶⁷

Hypertension

- Antimony¹⁷¹⁻¹⁷³
- Arsenic^{12,79,80, 171-175}
- Cadmium^{80,174,176}
- Cesium^{172,173}
- Cobalt¹⁷¹
- Lead^{151,80,171,173,175-177}
- Mercury¹⁷⁴
- Molybdenum^{172,173,175}
- Platinum¹⁷²
- Tin¹⁷³
- Tungsten¹⁷¹⁻¹⁷³

Infertility

- Arsenic¹⁷⁸
- Cadmium¹⁷⁹⁻¹⁸⁴
- Copper^{180,185}
- Lead^{180,181,186,187}
- Mercury¹⁸⁸⁻¹⁹⁰
- Nickel^{191,192}

Insomnia

- Aluminum¹⁹³
- Arsenic^{12,194}
- Copper¹⁹⁵
- Manganese¹⁹⁵
- Mercury^{195,196}

Insulin Resistance

- Aluminum¹⁹⁷
- Antimony¹³³
- Arsenic¹⁹⁸
- Barium^{133,199}
- Cadmium^{136,200,201}
- Molybdenum¹³³
- Nickel²⁰²

Mast Cell Activation Syndrome (MCAS/MCAD)

- Aluminum²⁰³⁻²⁰⁵
- Cadmium²⁰⁶

- Mercury^{207,208}

Metabolic Liver Disease (MASLD/NAFLD)

- Arsenic^{209,210}
- Barium²¹¹
- Cadmium^{211,212}
- Cesium²¹¹
- Mercury²¹²⁻²¹⁴
- Thallium²¹¹
- Uranium²¹¹

Menstrual Disorders

- Cadmium^{210,215-217}
- Lead²¹⁸
- Mercury^{188,219,220}

Metabolic Syndrome

- Arsenic²⁰¹
- Cadmium^{201,221-223}
- Cesium²²⁴
- Lead^{201,223,225,226}
- Mercury^{201,220,223}

Miscarriage

- Arsenic²²⁷
- Cadmium^{188,228,229}
- Lead²²⁷⁻²²⁹
- Mercury^{188,220,230}

Multiple Sclerosis

- Aluminum^{29,231-235}
- Arsenic²³⁶
- Cadmium²³⁵⁻²³⁷
- Copper²³⁵
- Iron²³¹
- Lead^{234,235}
- Lithium²³⁵
- Manganese²³⁵
- Mercury²³⁴

Nephrotic Syndrome

- Aluminum⁴⁵
- Arsenic¹¹³
- Cadmium¹¹³
- Lead¹¹³
- Mercury^{113,238,239}

Neuropathy

- Arsenic^{12,240-242}
- Cadmium^{32,243-245}
- Copper²⁴⁶
- Lead²⁴⁶
- Lithium²⁴⁶
- Mercury^{162,246}
- Thallium²⁴⁶

Obesity

- Aluminum²⁴⁷⁻²⁴⁹
- Antimony²⁵⁰
- Barium^{249, 251}
- Cadmium²⁵²
- Cobalt²⁴⁹
- Lead^{212,252,253}
- Manganese^{253,249}
- Mercury^{212,249,251-254}
- Thallium²⁴⁹
- Tin^{255,256}

Osteoarthritis

- Cadmium⁹²
- Lead⁹²
- Mercury²⁵⁷

Overactive Bladder

- Antimony²⁵⁸
- Cadmium^{258,259-261}
- Cobalt^{258,260}
- Lead²⁵⁸⁻²⁶¹
- Mercury²⁵⁹
- Uranium²⁶⁰

Pain

- Aluminum²⁶²
- Arsenic^{102,263}
- Cadmium²⁶⁴
- Gadolinium¹⁶¹
- Lead²⁶⁵
- Mercury^{266,267}
- Nickel²⁶⁸

Parathyroid Disorders

- Aluminum^{44,45}
- Cadmium^{269,270}
- Lead²⁷¹

Parkinson's Disease

- Aluminum^{28,29,272,273}
- Arsenic^{30,31}
- Cadmium^{32,274}
- Cobalt²⁷²
- Copper^{272,273, 275}
- Iron^{272,273,275}
- Lead^{272,273,275-278}
- Manganese^{272,275,273}
- Mercury^{272,275}
- Molybdenum²⁷⁴
- Thallium²⁷³
- Uranium²⁷⁴
- Zinc^{272,273}

PCOS

- Antimony²⁷⁹⁻²⁸¹
- Arsenic²⁸²⁻²⁸⁴
- Barium^{283,284}
- Cadmium²⁸¹⁻²⁸⁴
- Lead^{281,282,284}
- Mercury^{220,281-284}
- Thallium²⁸⁰

Pelvic Inflammatory Disease

- Cadmium²⁸⁵
- Lead²⁸⁵

Psoriasis

- Antimony²⁸⁶
- Arsenic¹⁵⁶
- Barium²⁸⁶
- Cadmium²⁸⁶⁻²⁸⁸
- Cesium²⁸⁶
- Chromium²⁸⁸
- Lead²⁸⁸
- Lithium^{3,289}
- Nickel²⁸⁸
- Uranium²⁸⁶

Pulmonary Disease (also see Asthma above)

- Aluminum^{23,290}
- Antimony²⁹¹
- Arsenic^{66,292}
- Beryllium²⁹³
- Cadmium^{32,294,295}

- Lead²⁹⁴⁻²⁹⁶
- Manganese^{291,294}
- Mercury^{291,295,297}
- Nickel³²

Renal Disease (also see Nephrotic Syndrome and CKD)

- Aluminum²⁹⁸⁻³⁰¹
- Arsenic³²
- Cadmium^{32,65}
- Lead^{65,302-304}
- Mercury^{65,238}
- Platinum³⁰⁵

Rheumatoid Arthritis

- Antimony⁹⁰
- Cadmium^{90,92}
- Lead^{90,92}
- Mercury²⁵⁷
- Tungsten⁹⁰
- Uranium⁹⁰

Seizure

- Aluminum³⁰⁶⁻³⁰⁸
- Antimony³⁰⁶
- Arsenic³⁰⁶
- Cadmium^{306,309}
- Cobalt³⁰⁶
- Copper³⁰⁶
- Lead³⁰⁶
- Manganese³⁰⁶
- Mercury³⁰⁶
- Nickel³⁰⁶

Sleep Disorders

- Aluminum³¹⁰
- Antimony^{311,312}
- Arsenic^{12,54}
- Cadmium^{310,313-315}
- Cesium³¹⁵
- Lead^{310,314,316-318}
- Manganese^{310,319-322}
- Mercury³²³⁻³²⁹
- Uranium^{330,331}

Stroke

- Arsenic^{80,332}

- Cadmium^{80,332-334}
- Copper³³⁴
- Lead^{80,332,334}
- Mercury^{332,333}

Systemic Sclerosis

- Aluminum³³⁵
- Antimony^{92,336,337}
- Cadmium^{92,335-337}
- Lead^{92,335-337}
- Mercury^{92,335-337}
- Molybdenum³³⁷
- Palladium^{92, 337}
- Zinc³³⁷

Thyroid Disease

- Aluminum¹⁰¹
- Antimony^{101,338}
- Arsenic^{101,339}
- Cadmium^{101,338,340-347}
- Chromium^{340,345}
- Cobalt³³⁹
- Copper³⁴⁵
- Lead^{101,338,340-342,344,345,347-349}
- Lithium³⁵⁰
- Manganese³⁴¹
- Mercury^{101,339,341,351}
- Nickel¹⁰¹
- Palladium⁹³
- Tin³⁴⁸
- Uranium³⁵²

Uterine Fibroids (Uterine Leiomyomas/Leiomyomata)

- Cadmium³⁵³⁻³⁵⁵
- Lead³⁵³
- Mercury^{353,354,356}

Vision Changes

- Arsenic^{12,54}
- Cadmium³⁵⁷⁻³⁵⁹
- Gadolinium¹⁶¹
- Lead^{357,358}
- Mercury³⁵⁷
- Tin³⁵⁸
- Tungsten^{358,360}

Test for Heavy Metals with DiagnosTechs Laboratory

Test for current exposure and stored levels of up to 36 toxic heavy metals and elements with the [Toxic Metals and Elements \(TME\) Test Panels](#).

DignosTechs offers six different TME Test Panels:

- **Salivary Metals and Elements (SMETALS)**
- **Urinary Metals and Elements (UMETALS)**
- **Salivary and Urinary Metals and Elements Combo Panel (CMETALS)**
- **Timed Salivary Metals and Elements (TSMETALS)**
- **Timed Urinary Metals and Elements (TUMETALS)**
- **Timed Salivary and Urinary Metals and Elements Combo (TCMETALS)**

The regular (single collection) **TME Panels** assess baseline current exposure levels to metals and elements rather than the stored or past exposure.

The **Timed TME Panels** are designed for use with a [chelating or provoking agent](#), which mobilizes the stored pool of toxic metals to assess the approximate body burden when compared to the baseline exposure levels.

Discover the specific metals affecting health with [Toxic Metals and Elements Test Panels](#), allowing you and your patients to take targeted & effective steps to reduce exposure and follow a personalized, [evidence-based treatment plan](#).

* Please note that an association does not confirm causation or suggest that reducing exposure to a specific metal will resolve a health concern. Additional toxic metals could be associated with some of these health concerns, as well as health concerns not listed. The summary above is not exhaustive.

References:

[Link to references](#)