

## **TOXIC HEAVY METALS & SPECIFIC EFFECTS**

### **Psychiatric Disturbances**

<i><b>TOXIC HEAVY METALS</b></i>	<i><b>SPECIFIC EFFECTS</b></i>
Mercury	Social Deficits Social withdrawal
Mercury	Repetitive preservative stereotyped behaviors OCD-typical behaviors
Arsenic, Copper, Lead, Mercury	Depression mood swings flat affect impaired facial recognition
Mercury	Schizoid tendencies, hallucinations, delirium
Lead, Mercury	Irritability aggressive behaviors temper tantrums
Copper, Mercury	Suicidal Behaviors
Lead, Mercury, Thallium	Sleep difficulties/ disturbances
Aluminum, Arsenic, Cadmium, Copper, Lead, Mercury, Thallium	Chronic fatigue (CFS) weakness malaise
Arsenic, Lead, Mercury	Anorexia symptoms reflecting eating disorders loss of appetite/weight
Thallium	Anxiety nervous tendencies
Lead, Mercury	Attention problems (ADHD) lacks eye contact impaired visual fixation

### **Renal and Hepatic Impairment**

Arsenic, Copper, Thallium	Hepatotoxicity, Liver dysfunction damage
Copper	Cirrhosis of the liver, hepatitis
Arsenic, Lead, Mercury	Kidney disease, kidney failure
Arsenic, Copper, Lead	Renal toxicity, tubular proteinosis
Arsenic, Lead	Kidney Damage historical alterations

## Physiological Impairment Brain and Central Nervous System

Aluminum	Neurofibrillary tangles
Aluminum, Arsenic, Thallium	Neuritis retrobulbar neuritis, neuropathy
Aluminum, Arsenic, Thallium, Lead	Encephalopathy
Lead	Alterations in nerve conduction velocity
Thallium	Alterations in spinal cord
Aluminum, Mercury	Accumulates in CNS structures
Arsenic, Lead	Abnormal EEGs
Copper, Lead, Mercury, Thallium	Autonomic disturbances

## Peripheral Nervous System

Arsenic, Mercury	Peripheral neuropathy
Arsenic	Alterations in peripheral nerves
Arsenic, Thallium, Mercury	Loss of feeling/numbness in the extremities, parasthesia

## Cardiovascular System

Arsenic	Blood vessel damage
Arsenic, Copper, Lead	Anemia, decreased red blood cell count
Arsenic, Copper, Thallium, Lead	Hypertension, increased heart rate (tachycardia)

## Electrocardiac disorders

Arsenic, Lead	Peripheral vascular disease, cardiovascular disease, vascular collapse
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## Gastrointestinal Tract

Arsenic, Copper, Mercury, Thallium	Blood vessel damage
Arsenic, Copper, Lead, Mercury, Thallium	Anemia, decreased red blood cell count
Arsenic, Mercury, Thallium	Hypertension, increased heart rate (tachycardia)
Arsenic	Cancers (colon pancreatic stomach or rectal)