

Toxic Metal: The Health Dangers of Barium

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Barium is a natural, silvery-white earth metal. Highly reactive with air, barium is not found naturally in pure forms but as a component of ores. When barium is combined with other elements to form barium compounds, it has many applications. Barium carbonate is used as a rat poison, low amounts of barium sulfate may be ingested prior to receiving an x-ray to provide better imaging, and industries such as mining, refining, glass, and coal also utilize barium. Barium exposure, however, can cause serious health problems.

Sources of Barium Exposure

Barium exposure can happen through a number of channels including occupational exposure, groundwater contamination, environmental pollution, cigarette smoke, and even certain medical procedures. In my opinion, industrial use is perhaps of the largest concern due to the potential for massive environmental pollution.

One such example is large, flat-panel televisions. They have become very popular and celebrity-fascination coupled with ever-dropping price points are a likely indicator that their prevalence will continue. Televisions, old and new, contain chemicals and toxic metals. According to UC Davis' Department of Chemical Engineering, the list of toxins included with most televisions includes arsenic, barium, cadmium, lead, and mercury (and programming that is overwhelmingly void-of-thought). When televisions are improperly disposed of, environmental and groundwater contamination can be an extremely serious problem. In the past 5 years, how many people do you know who have replaced an old television with a new one? We've heard that television can be bad for the brain but the potential environmental and public health impact from leaky television disposal really gives that idea a new meaning. ^[1]

As if you needed another reason to avoid cigarettes, the CDC's Office of Smoking and Health have reported that cigarette smokers have higher levels of chemicals and toxic metals, including [cadmium](#), [lead](#), and barium. ^[2]

Barium salts can improve x-ray imaging and certain radiological procedures require that patients drink a barium sulfate beverage; perhaps you or someone you know have been lucky enough to receive a barium enema prior to a colon x-ray? In 2003, it was reported that a contaminated barium solution had been linked to 44 suspected cases of barium toxicity and as many as 9 deaths. Following this tragedy, the CDC recommends patients and clinicians be mindful of barium toxicity after radiologic procedures. ^[3]

What are the Symptoms of Barium Exposure?

According to Morristown Memorial Hospital in Morristown New Jersey, classic signs of barium toxicity include low blood potassium, cardiac arrhythmias, respiratory failure, gastrointestinal dysfunction, paralysis, muscle twitching, and elevated blood pressure. ^[4] Severe barium toxicity can lead to kidney damage, respiratory failure, and death. ^[5] Regular barium exposure has even been fingered as a potential contributor in the development of neurodegenerative diseases, including multiple sclerosis. ^[6]

The Department of Emergency Medicine at the University of Massachusetts Medical School reported a case of a man who had ingested fireworks (health tip: do not eat fireworks) and developed barium poisoning as a result. He exhibited reduced mental function, heart problems, and respiratory failure. Following an intervention with a ventilator and potassium supplementation, he improved. ^[7] Potassium supplementation to counteract barium toxicity has been recognized since at least the early 1930s. ^[8]

Addressing Barium Exposure Concerns

Barium levels in the body can be measured through bone, blood, feces or urine samples. However, tests cannot determine the duration or level of barium exposure. If you're concerned with the negative effects of barium or other chemical and toxic metal exposure, I recommend taking a personal inventory of your life to determine your exposure risks. Are you drinking purified water? Are you consuming organic foods that are free of pesticides? Do you live in an area more susceptible to industrial contamination? Are you [cleansing your body](#)? These are just a few things to consider. Once you've identified the sources of toxins, you can work on removing them from your life.

-Dr. Edward F. Group III, DC, ND, DACBN, DABFM

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