

Metal Beryllium Causing "Unrecognised Epidemic"

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DENVER — Rapidly growing use of the metal beryllium, combined with lax regulations and inadequate medical surveillance, are putting thousands of unsuspecting workers at risk for a debilitating and potentially fatal disease, according to National Jewish researcher Lee Newman, MD, and his colleague Peter Infante, DDS DrPH, of The George Washington University. In an article published in the February 7 issue of *The Lancet*, Newman and Infante state that as many as 800,000 workers in the United States may be exposed to the toxic metal in "an unrecognized epidemic of chronic beryllium disease."

"Today, evidence of the poisonous properties of beryllium and of the failure of both government and industry to adequately prevent beryllium-related illness is apparent," write Newman and Infante. "Regulatory agencies and producers of beryllium products must now act responsibly to arrest the problem."

Beryllium's extraordinary combination of light weight and strength have made it a very attractive material. It has long been used by the defense industry in nuclear weapons, missiles and other military applications. But in recent years, numerous industries, including aerospace, automotive, electronics and telecommunications have begun using it. Beryllium can be found in tubing for oil and gas drilling, tools and dies, jewelry, bicycle frames and dental appliances.

Beryllium is not harmful when held or touched. The health hazard arises when people create airborne particles of the material in the process of cutting, grinding or otherwise working with it. When the beryllium particles are inhaled, they can cause an allergic reaction that leads to sometimes fatal scarring of the lungs. Symptoms of chronic beryllium disease include shortness of breath, cough, fatigue, fevers and night sweats.

Newman and Infante estimate that the number of workers in the United States exposed to potentially harmful particles of beryllium has risen from about 30,000 in the 1970s to between 200,000 and 800,000 today.

No one knows exactly how many people have developed the disease. Dr. Newman, Head of the Division of Environmental and Occupational Health Sciences at National Jewish, has seen more than 100 cases. An investigative report by *The Chicago Tribune* in 2001 estimated that about 1,300 people in the United States have been diagnosed with the disease, of whom hundreds have died. Cases of chronic beryllium disease have been reported in Britain, Canada, France, Germany, Sweden, Israel, Japan, and Russia.

The toll could be much higher than is generally recognized, however. The disease is often misdiagnosed, commonly as sarcoidosis. They estimate there is a minimum of 4,000 to 16,000 cases of undiagnosed chronic beryllium disease in the United States alone. Rapidly growing exposure to the metal is likely to dramatically increase the numbers of people who develop the disease.

Use of a diagnostic blood test, called the beryllium lymphocyte proliferation test, allows doctors to correctly diagnosis chronic beryllium disease. Unfortunately, many industries underutilize this test and fail to identify workers with the disease and those at increased risk of developing the disease.

The U.S. Occupational Safety and Health Administration (OSHA) still allows permissible exposure limits (PEL) that are "grossly inadequate to prevent disease occurring," write Newman and Infante.

In addition, OSHA standards for beryllium do not currently mandate any particular work practices, education of workers or medical surveillance. The authors go on to note that in November 2000 OSHA indicated that it would propose new beryllium exposure regulations by December 2001, but has so far failed to do so.

"A new beryllium standard is needed," write Newman and Infante.

In addition, the researchers say that industries using beryllium need to look for alternatives to this toxic material,

reduce workers' exposure to beryllium and better monitor those who are exposed to it.

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