

Beryllium-affected Hanford nurse shares her story

Shannon Bowser, *Fluor Hanford*

In more than 20 years of nursing, Mary Sams never worked in beryllium operations or handled tools that were made with beryllium, yet today she has beryllium sensitization. She shares this medical condition with employees whose occupations vary from carpentry to secretarial work.

Like many beryllium-affected employees, it is difficult to pinpoint where Sams' exposure occurred because, as a nurse, she has responded to emergency calls in many of the older buildings at Hanford. It is now known that some of these buildings have a history with beryllium.

Sams also worked unknowingly for several years in what has now been designated as a beryllium-condemned building. Although she can never be sure, she suspects she was exposed when workers tried to fix a problem with the fire lines in her building's attic. "We could see the dust fall from the ceiling when tiles above us were moved," said Sams. "The work that was done likely disturbed beryllium dust that had settled in the building from previous beryllium operations."

In solid form, beryllium is not harmful, but exposure to the substance can occur when it is inhaled in the form of dust particles. The particles are so small that they can travel deep into a person's lungs.

Some individuals exposed to beryllium develop a hypersensitivity to the substance, called beryllium sensitization. Unlike the effects of most toxic substances, with beryllium there is no relationship between the level of exposure and the potential for becoming sensitized. "Some people can be exposed to large amounts of beryllium dust for long periods of time and will never be affected by it," said Sams. "Others can walk in a building infrequently and breathe in a small amount of beryllium dust particles and will become sensitized. Genetics may determine who is highly susceptible — the problem is that there's really no way of knowing who has what genes."

After years of working in the now beryllium-condemned building, one of Sams' co-workers saw that it was included on a list



Mary Sams, a nurse and a beryllium case-management specialist at the Hanford Environmental Health Foundation, checks the blood pressure, pulse rate and oxygen saturation of a patient. Sams has beryllium sensitization, a medical condition she shares with employees whose occupations vary from carpentry to secretarial work.

For many workers, it could be an occupational hazard

Only 10 percent of Hanford employees have been tested for beryllium sensitization, yet employees in many occupations at the site have developed beryllium sensitization or chronic beryllium disease. These occupations include the following:

- Secretary/clerk
- Security/fire/medical personnel
- Engineer
- Electrician
- Pipefitter
- Carpenter
- Ironworker
- Manager/supervisor
- Millwright
- Driver
- Nuclear process operator
- Nuclear chemical operator
- Health physics technician

Continued on page 12.

Beryllium-affected Hanford nurse shares her story, cont.

of facilities where beryllium had been used or stored at Hanford. Her co-worker encouraged her to get tested for sensitivity, but Sams was hesitant because she'd never knowingly worked with beryllium and was unaware of her building's history. After her co-worker persisted, Sams agreed. She was shocked when she found out she had tested positive for sensitization: "I would have never thought that I was exposed to beryllium — let alone was affected by it. No one told me that I was working in a building that had beryllium in it."

Sams is now the beryllium case-management specialist at the Hanford Environmental Health Foundation, where she helps others who may have been exposed to beryllium. As a nurse, she urges anyone who worked with beryllium, or who thinks he or she could have been in a building where beryllium was used, to get tested. "You just don't know until you get tested," Sams said. "There aren't any signs or symptoms of sensitization. Even the blood test is not foolproof. That's why a complete work history and physical exam are needed to determine your risk of being affected by beryllium."

Testing for sensitization is important because the condition can develop into chronic beryllium disease, a sometimes-fatal disabling lung disease. When detected early, CBD may be treated, though not cured. There are medications available that can often alleviate symptoms of CBD, so an early diagnosis is important for a person's well-being.

"Early detection can maintain your wellness so you can improve your quality of life," said Sams. "There's no way to stop the disease, but knowing can allow you to cope with the symptoms better. By monitoring your condition on a regular basis, doctors can see the process and delay the progression with treatment."

Sams urges those who have been exposed but have tested negative to "maintain testing, because sensitization isn't something that happens right away. We test individuals enrolled in the beryllium program who are not beryllium-assigned workers every three years," she said.

Even if you personally have not been exposed to beryllium, you may know someone who has been. Many long-time Hanford employees have unknowingly been in the older buildings at the site that are now known to have a beryllium history. As in Sams' case, most individuals who get tested have been encouraged by friends or co-workers. "One-on-one communication is the most effective way to encourage others to get tested and to spread awareness of this problem," she said.

For questions or additional information about testing and exposure to beryllium, contact Mary Sams at 376-6000, or Terry Cherney, chairman of the Beryllium Awareness Group, at 376-6006 or via e-mail to [HEHF Beryllium](mailto:HEHF@hanford.gov). Retirees should contact the Former Hanford Worker's Medical Monitoring Program at (800) 419-9691. The Hanford Web site for information on beryllium and testing is at www.hanford.gov/safety/beryllium. ■