ference ($p = 0.05$) found to exist between the other three populations. A significant difference ($p < 0.01$) was observed between the Rocky Flats beryllium sensitivity rate (3.70%) and the sensitivity rate for the other three sites combined (2.47%). A significant difference ($p < 0.05$) was also observed between the Lawrence Livermore sensitivity rate (3.07%) and that of Kansas City (2.03%). A significant difference ($p < 0.05$) was identified when comparing the percentage of Rocky Flats and Pantex individuals that received bronchoscopies (75% and 80%, respectively) on initial evaluation with Kansas City (69%) and Livermore (50%). A significant difference ($p < 0.05$) was also identified for the diagnosis of CBD on initial evaluation in the Rocky Flats sensitized population (45%) when compared with the other three sensitized populations combined (17%). From the data, it appears that the percent of sensitized individuals and the percent diagnosed with CBD will be significantly greater in the Rocky Flats population than in the other populations. Although Lawrence Livermore has a significantly higher beryllium sensitivity rate than Kansas City, the CBD rate does not reflect this. We believe the difference in CBD diagnosis rate in the Rocky Flats population can be at least partially accounted for by an increased opportunity for beryllium exposure and an increased frequency of exposure in the Rocky Flats population. In addition, individuals at Rocky Flats and Pantex were exposed solely to beryllium metal and beryllium metal oxide rather than beryllium-copper alloy at Kansas City, and beryllium alloy, beryllium ceramics, and beryllium metal at Lawrence Livermore.

The Affected Worker and Families Perspective on CBD

Bob Immele[1], *Ann Immele*[2]
[1] Journeyman Electrician, PNNL, [2] Executive Secretary, FLUOR

I became the first beryllium-affected worker at Pacific Northwest National Laboratory. I had to understand what the diagnosis meant. My normal family life and routine became disrupted with multiple doctor appointments, insurance issues, and day-to-day concerns for the affected family member. We must not forget that the families of affected workers are also people that are affected by Beryllium, and they need to be treated with respect and a caring attitude. I learned all I could about chronic beryllium disease. Information helped me calm natural fears and led me to promote awareness about beryllium risks among current workers. I began worker safety training to help others avoid beryllium exposure. I wanted to smooth out the bumps and knock down some of the roadblocks that I have encountered, and hopefully reduce or prevent Beryllium exposures both in the work place and at home. Training must be directed towards workers as well as towards managers, supervisors, safety and industrial hygiene staff. By having all parties involved in the appropriate level of training, trust and understanding between the affected worker and their management will build the necessary foundation for a safer work environment for everyone. Affected workers are vital to any training program. They can provide needed support to others diagnosed with chronic beryllium disease. When organizing meetings on occupational diseases, a panel of participants affected by the disease, who have "been there", would provide invaluable input in addition to the experts.

Beryllium sensitization in the "general population"

L. Silveira, M. Bausch, M. Mroz, L. Maier, L. Newman
Division of Environmental and Occupational Health Sciences Center, National Jewish Medical and Research Center, Denver CO

Beryllium sensitization is well-recognized to occur as a consequence of occupational exposure to beryllium and has also been reported in some individuals with environmental exposure in communities around beryllium facilities and in spouses of beryllium workers. It has been suggested – but not substantiated in the medical literature – that there is a 'background rate' of beryllium sensitization in the "general population". Unpublished data from Ohio and from Arizona suggest that "general population" sensitization to beryllium diseases probably does not occur. However to further examine this question we conducted the following study.

Methods: We reviewed results of blood beryllium lymphocyte proliferation tests (BeLPT) performed on individuals from three communities, all of whom were being hired to work at one of three plants where beryllium exposure can potentially occur. The blood BeLPTs were obtained post-hire but prior to having any occupational exposure to beryllium. Detailed, self-reported occupational exposure histories were obtained, that included specific questions regarding any prior exposure to beryllium and prior jobs held. Beryllium sensitization in this study was defined as two or more positive blood BeLPTs.

Results: Company A tested 337 individuals who had self-reported no prior beryllium exposure. One individual had confirmed beryllium sensitization, however a detailed occupational history discovered prior occupational beryllium exposure in this person. Company B tested 170 individuals, none of whom were found to be beryllium sensitized. Company C tested 10 individuals who had no self-reported beryllium exposure, none of whom were sensitized. Taken in aggregate, we found one sensitized individual in 517 individuals (0.2%), however this individual proved to have had prior occupational exposure, thus the sensitization rate in the 'general population' of 517 was 0%. In a study conducted in Ohio, one person out of 676 screened workers was found to be sensitized. This individual was one of 70 workers identified at that plant to be a worker with potential beryllium exposure. When our data are combined with data presented in abstract form for non-exposed individuals tested in Ohio (0/606) and in Arizona (0/62), we conclude that no sensitization has been detected in 1185 non-exposed individuals from five separate communities in North America.

Conclusion: Beryllium sensitization in the general population rarely, if ever, occurs. If a case of beryllium sensitization is detected in the general population, a detailed examination of the occupational history should be undertaken. Beryllium-using industries should not be mislead to think that beryllium sensitization should be expected to occur in their worker populations because of the "general environment," unless there is reason to suspect elevated community levels of beryllium due to industrial pollution.