

A good Industrial Hygiene program includes repeated examination of urine specimens from those exposed. The results are measured in gamma per liter. A gamma is 1/1000 of a milligram, so that when dealing with such minute quantities, it is essential that collection of the urine specimens be done with great care. A small bit of lead dust the size of a pinhead will contaminate the specimen to such a degree that it is readily recognizable during analysis.

Impending lead intoxication can be predicted with reasonable assurance by using this method, and workers can be safeguarded before disability occurs.

We have numerous examples of what can be accomplished by cooperation between engineers, plant management and the Medical Department. In our National Bearing plant in St. Paul, we used to have an average of thirteen or fourteen cases of lead intoxication a month. Since the inauguration of our hygiene program, the very commendable effort of the plant management and engineering staff in carrying out recommendations of our industrial hygiene engineer, Herb Weber, has produced a situation in which we have not had a case of lead poisoning in this plant in three years.

In our St. Louis plant where the lead problem has been acute, through similar cooperation results are now becoming appreciable and we are looking to the not too distant future where lead cases will be just an unpleasant memory.

In Amsco we have had an excellent example which I believe Brown Reinhardt will mention in his presentation. I refer to the burning table which now controls one of the worst exposures we have in this division. Because rather rapidly developing x-ray changes were noted on the chest films of workers on this job, something had to be done. A conference was held at Chicago Heights between the Medical Department and plant management and engineers. At that meeting Mr. Mullin detailed Al Shafer and Herb Weber to go to Denver at once, study the situation and come up with the answer for practical exhaust of the operation. They did this and within a few weeks designed and installed a new burning table which has completely reduced the dust hazard to well within safe limits.

I could cite many more examples, but these will suffice. The point I wish to make is that there is usually a practical answer to these problems. I would like to stress the thought that you, as engineers, ought not to use the "negative" approach to these things. I realize that you are vitally concerned with costs and that new ventilating equipment must be kept within reasonable limits. We in the Medical Department are also keenly aware of this angle, which is all the more reason for such conferences as this. Yet we, like you, have a job to do. Ours is perhaps a greater responsibility because we are concerned with human machines in contrast to those of iron and steel. We have been commissioned to protect the health of Brake Shoe employees and our first responsibility is to them. If you engineers become imbued with that same spirit and consider every working environment from the standpoint of whether you would like to spend the productive period of your lives in unhealthy atmospheres as some of these men do, I am sure that you will readily recognize the need for cooperation in making Brake Shoe a better place to work.

DISCUSSION

Dr. Hamlin's comprehensive paper, which dealt with the occupational disease hazards confronting Brake Shoe, was followed by a series of lantern slides showing: types of dust particles, path of a dust particle in the respiratory tract, normal and pathological lungs.