

October 23, 1959

Dr. A. R. Judd
Price Battery Corporation
General Offices and Factories
Hamburg, Pa.

Dear Doctor Judd:

I shall be brief, for the lack of time to give extensive consideration to your problem. If you were here we could discuss the background and the rationality of analytical work in relation to occupational exposure to lead in a more effective manner. However, I shall explain the matter to the extent that is necessary to get things underway, and leave the details until later.

We prefer to carry out analyses of the blood (in duplicate) and to supplement this procedure with the analysis of a single "spot" sample of urine, collected directly into our container on the same day the blood samples are obtained. This dual procedure provides us with two types of information. However, when samples are to be obtained on only one man, or on a few, at a time, the result obtained on the urine is of little value, and under these circumstances the analysis of the blood is, by far, the most useful procedure. The lead content of a single sample of the urine of a single man is of almost no value at all for purposes of estimating the extent of the current exposure to lead. It is a waste of time and money, unless a number of results, on a fair-sized group of men, are obtained simultaneously. Thus the analysis of six to nine samples of urine per month will be a waste of our time, and the results will give you little information. On the other hand the results on the blood of the same men, in the same number, will tell you whether or not these men are in danger or whether they have a suitable margin of safety.

We supply evacuated tubes for the collection of duplicate samples of blood (it is necessary to be certain that no contamination occurs, and so the duplicates are advisable) and we supply instructions for the collection of the samples. We make a charge for the duplicate analyses as though they were one sample, since this precaution is, in part, to our own interest. It is, however, of great significance in medico-legal actions.

We also supply containers for the urine and instructions for their collection.

The cost of the analysis is just what it costs us to process the samples and the reports (as a University laboratory, we work at cost). This cost is \$12.50 per sample - \$12.50 for the pair of analyses of the blood, and \$12.50 for the urine. I repeat that we recommend both

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analyses, for which the cost is \$25.00 per person. If you wish to economize, however, you can send the blood alone.

With the sample containers we send "request sheets" on which we indicate the need for certain types of information. These speak for themselves, but I can clarify them by telling you that what we want is information concerning the exposure of the person, its time of occurrence and its duration, and, in particular, the time of occurrence of the last exposure in relation to the time at which the sample (or samples) were obtained. This time relationship is all important in the interpretation of the result.

If a man is ill we want to know the time of onset, the nature and the course of the illness, and the present findings.

When analyses are being made from time to time on the same individuals, all we need at such times is the interval history, in so far as it is pertinent.

With the foregoing information at hand, you and the management of the plant will be able to decide what you wish to do, after which you can let me know whether or not to send containers to you and what numbers and types, if any, you require.

The statement of cost made above is the entire cost. We charge on the unit basis since there is no other convenient method. This includes the interpretation and the advice given, and I speak of this as "consultation" since that, in my view, is exactly what it is. We proceed on condition that the information which we require is provided, since a part of our function is that of keeping in touch with the lead-using industries and knowing, at first hand, what is going on. Through these contact we are able to follow a fairly representative cross-section of American industry, and that is the only justification we have for continuing our services in this direction.

Cordially yours,

Robert A. Kehoe, M. D.

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