

October 17, 1939

Dr. E. E. Ecker
Institute of Pathology
Western Reserve University
2085 Adelbert Road
Cleveland, Ohio

Dear Doctor Ecker:-

We are laboring under a considerable volume of work at the present time which makes it difficult for us to accede to the request in your letter of October 14th, and which would make it quite impossible for us to analyze the materials which you wish to send us without some delay. On the other hand, I do not like to refuse to accommodate you and if it would be satisfactory to you to have these samples worked in gradually along with some others, we shall be able to complete them over a period of several weeks.

In view of our experience with the opportunities for contamination in the handling of the tissues of animals, I think I should warn you that the utmost care is necessary in order to obtain useful results. The concentrations of lead in animal tissues are always quite low, and the total quantities involved in the tissues of small animals are quite small. Consequently the slightest factor of contamination will completely vitiate the results. I have no wish to presume upon our experience, but since I have no direct knowledge of the extent to which you are acquainted with the above difficulties, and since I would not want our work to be in vain, I believe it would be wise if we were to provide you with containers from our own laboratory for the collection of these samples. The tissues should be removed from the animals with the least possible handling in an area that is free of dust, and all tools or instruments, or any other materials with which the tissues come in contact should be cleaned with the utmost precautions, after which they should be carefully rinsed in the best quality of distilled water. If it is possible to handle the tissues themselves without any rinsing, it would be highly desirable to do so.

The containers should be carefully weighed, the tissues should be introduced into them and then they should be re-weighed. In this way it will be unnecessary to use any preservative on the tissues, and any decomposition which occurs in them will have no effect upon the analytical results. If you will let me know the type of animals which you are using, and the number of samples of each tissue which you would like to have analyzed, we will provide you with the necessary containers which will then not have to be returned to you.

We will not need more than 100 grams at most of any tissue and we can, of course, work with a high degree of accuracy with as little as 10 grams. If it is necessary or advisable for you to retain a portion of each tissue, the portion destined for analysis should be cut off with a minimal amount of handling and weighed as I have indicated, after which the remainder of the tissue in its original wet form should be weighed. We should be provided with the total weight of each organ to be examined. If then you would be agreeable to giving us the information as to the nature of the treatment of the animals, we might find ourselves in possession of data which would be useful to us as well as to you. Obviously, however, we would make no use of your data without your permission. I mention the point only because it seems too bad, unless it is necessary, to lose any data which may be useful in connection with our work.

If I have gone to some length to describe the necessities in technique, it is because I have found that some of the workers in this field and some who have actually published data in the literature, have not realized that the effects of contamination may provide analytical results far in excess of the quantities of lead arising from the specific experimental procedure.

As to the cost of these analyses, we are somewhat hesitant in collecting money from our scientific colleagues for rendering them certain useful services. We would prefer not to make any charge unless indeed you have already set aside specific funds for this phase of the project. We have found that the over-all cost of individual analyses of the type you have in mind is approximately \$5.00 per sample. We would not think of making any charge in excess of this figure and we should quite agreeable to suiting our charges, if any, to the circumstances connected with your work. I leave that matter very largely in your hands.

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If you will let me know at your earliest convenience as to what you would like us to do, we will undertake the necessary arrangements.

Cordially yours,

RAK:18

Robert A. Kehoe, M.D.

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