

July 15, 1944

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Dr. Robert R. MacDonald,
448 Brownsville Road,
Pittsburgh 10, Pennsylvania.

Dear Dr. MacDonald:

The pressure of other work has delayed my answering your letter. I should be glad to give you every possible assistance in connection with the sick child. I presume from what you have said that the diagnosis of lead poisoning at the age of three months was not made by yourself. Perhaps I need not stress the point that lead poisoning at that age is unusual and that there are really only one or two situations that have occurred to give rise to lead poisoning at that age. Almost the only means one can think of is the use of a lead nipple shield. Of course, some other lead-containing utensil might have been used in the preparation of the milk or some other object may have been available which was put into the mouth of the child frequently. In any case, I would be skeptical of the diagnosis, unless it had been confirmed by very definite methods.

I do want to emphasize the fact that some degree of stippling of the red blood cells is not sufficiently indicative of lead absorption to give a very well defined diagnostic proof. Stippling is much too common in normal blood of both the child and the adult to permit one to use it as a specific diagnostic test.

I am equally skeptical of drinking water as a source of lead poisoning in a child, unless there is a very significant contamination. Unless you have good reason to believe that the water is contaminated up to or in excess of 0.1 mgs. per liter, the likelihood of this source of poisoning is very remote indeed. All in all I am quite sure that the diagnosis of lead poisoning in young children is made much more frequently than the facts justify.

Despite all that I have said above, I should be very glad to help you and I can perhaps be better prepared to do so if you will send me a more detailed account of this child's illness, as well as of its environmental surroundings. Just what should be done in the way of analyses is subject to consideration. It is a little difficult to obtain a sample of blood in the case of

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such a child, but I can supply you with chemical clean sterilized pyrex syringe and small special needle designed for taking blood from the child, and certain necessary containers for the collection of the urine. It is difficult to obtain an uncontaminated sample of urine in the case of a small child. If it is a boy, it may be possible to have him void directly into the sample container under the supervision of yourself or his mother. If it is a little girl, it will be necessary to use a wider mouthed container, but under these circumstances it is necessary to have the perineal area cleansed very carefully so as to avoid the slightest opportunity for contamination with traces of fecal material. If the child is in bed, a small glass cup, such as is used to hold bird seed, can be employed to collect the urine after which it is emptied into the chemical clean container that will be provided. If this operation is repeated on several occasions, a sample of suitable size can be obtained. We can use quite small samples insofar as the accuracy of analysis is concerned, but it is necessary to obtain a sample of sufficient size so as to iron out the variability of samples voided at different times under varied conditions of water output. I must warn you that it is difficult to obtain suitable samples and that you will probably have to give your careful personal attention to the collection of samples if you are to obtain any that will be worthy of analysis and that will give you information instead of misinformation.

If it is the water you are interested in, we can provide you with a gallon jug for the purpose of collecting a suitable sample. Perhaps it would be just as well to provide you with two containers, one sample being obtained after the water has stood over night in the piping system, the other being taken after the faucet has been allowed to run for five or ten minutes.

If you will let me know your wishes in relation to the information above, I should be glad to provide the necessary containers and detailed instructions for their use.

Cordially yours,

Robert A. Kehoe, M. D.

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