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DEPARTMENT OF HEALTH

Mar. 17th. 1932.

Dear Dr. Kehoe:-

At long last I am replying to your letter of Oct. 26th. I must apologize for not writing you sooner. As a matter of fact I did answer this letter on Oct. 31st. but was not particularly satisfied with the letter written and therefore put it aside and have not been able for various reasons to take it up again.

I wish to thank you very much for your letter and appreciate your criticism. I may state that any criticism on this subject which comes from you will always be appreciated.

The paper as prepared was not intended for general circulation. It was prepared for a meeting of health officers, including some general practitioners, and had for its object the fixing in the minds of those to whom it was presented the necessity of doing some investigation into supposed cases of lead poisoning. It was hoped that it might assist in the avoiding of bringing forward of cases as lead poisoning when the individuals concerned were not certainly suffering from that condition.

At the outset of the paper it was emphatically stated that there was no laboratory means of diagnosing lead poisoning. (I may state that the title of the paper was not of my choosing but had been chosen by others and I was requested to prepare the paper on this subject.) It was stated that there were certain

laboratory methods of rather simple application which might assist in clarifying doubtful cases and directing attention to the condition in cases which might otherwise be overlooked.

In our experience we have found the changes in the blood as seen by examination of a stained smear of considerable value. This of course is not used alone but is taken with the general symptom complex of the case. It is however of value in our experience in that we have yet to see a case of lead poisoning which did not show blood changes. The first change shown is that of stippled red cells. This method of using this sign is perhaps a negative one. On the other hans it is felt that the finding of stippling with other changes in a blood smear warrants investigation regarding exposure to lead. Of course it may be found on investigation that the case is not a case of lead poisoning, but perhaps I am conveying the impression that I wish to convey to you that it is so important that lead as a factor in the case should be ruled out.

Regarding the use of the examination of blood smears in the control of lead poisoning in those exposed to lead we have had some experience and feel that properly applied it is of definite value. I am not prepared to set any standard as to the number of stippled cells per million which should be a sign for discontinuence of exposure but I always feel rather doubtful about individuals showing two thousand or more stippled cells per million. On the other hand I have seen definite cases of lead poisoning with less.

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We have an interesting circumstance in one of the Plants here. This Plant for some considerable time produced a lot of lead poisoning. Eventually those men exposed were supplied with a mask which supplied free air, that is they were not breathing the atmosphere of the work room. Since the introduction of this mask there have been no cases of lead poisoning from this operation, also the number of stippled cells shown by the men working in this hazardous process have become very much less. At a recent examination of slides from these men no individuals working at this exposed operation and wearing a mask showed more than two thousand per million whereas other individuals in the plant in only fair proximity to the hazardous process showed as high as five thousand per million. Incidentally there have been cases of lead poisoning from this latter source.

In another Plant, in which smears were examined by number with a view of trying to arrive at some standard, the Doctor in the Plant was warned when it was thought the men should be shifted. In all cases but one the advise given after examination of the smears coincided with his observations. In one case the individual showed no symptoms but high counts of ten thousand per million or more. This man went on a spree one night and precipitated a very severe attack of lead poisoning which was considerably protracted.

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With reference to the findings in the urine and the faeces I perfectly appreciate your remarks. I feel however that in doubtful cases, particularly in cases that may come up for compensation, the demonstration of changes in the blood smear and of lead in the urine in amount more than is usually shown by unexposed individuals is of definite value. Again the amount of lead found in the urine is no indication of the severity of the lead poisoning.

In several obscure cases where lead poisoning could not be diagnosed from symptoms and signs other than the examination of the blood smear and the finding of lead in the urine deleading of the individual has resulted in material improvement. In one case the individual had not been exposed to lead for a number of years but was suffering chronic ill health. Careful investigation showed no definite cause for this. Because of his previous history of exposure and the appearance of his blood smear together with lead in the urine a course of deleading was instituted with very marked improvement.

I shall appreciate any further remarks or criticisms which you may care to favor me with. I know that efforts have been made to simplify the diagnosis of lead poisoning and I sometimes think that the result is to make the recognition of the condition more involved. Certain laboratory methods may be of assistance and when properly applied and interpreted should not be beyond the range of even those who are not in touch with

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a fully equipped laboratory but who have to depend on the meagre means at their disposal.

I hope I have made myself clear in this letter and would appreciate hearing further from you.

Yours very sincerely,

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