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Dear Doctor Bricker:

Since I am afraid that you will not find specific answers to the questions which you propose in your letter in the monograph which I am preparing, I am glad to give you such suggestions as I can.

The frequency with which blood or other examinations should be made in a storage battery plant is determined, in my opinion, upon the hazards present in the plant in question. The conditions in storage battery plants are quite variable, and in my opinion the matter of examining the men, though necessary, is not nearly so important as an appraisal of the hazards and the elimination of such as are obviously excessive and unnecessary. If the conditions in the plant are bad and we think can not be remedied, examinations will need to be carried out frequently. In such examinations the blood examinations should be only one item, and although they are important in providing information, they are not satisfactory alone in arriving at a conclusion as to what to do with a given workman. Evidences of lead absorption will be found in a considerable number of men working in most storage battery plants with which I am familiar. The occurrence of symptoms or signs of lead intoxication such as colic, loss of appetite, loss of weight and tendency to fatigue, are indicative of impending lead intoxication except as some other definite cause can be shown to have been effected. Stippling of the erythrocytes is conclusive in my opinion whenever there are evidences of a progressive increase in the number of stippled cells. However, this does not mean that lead intoxication is impending. It is merely indicative of a progressive lead absorption. I regard the diminution in haemoglobin and drop in the red count as early evidences of lead intoxication unless other causes account for the change. Thus I believe that workmen should be removed from their occupation when either of these blood conditions put in their appearance. I should not wish to make general use of the method of transferring workers from one job to another and then back again to the original job. This can be done in some instances. In general in my opinion it is a bad procedure. The transferring of men

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from an hazardous occupation to one which has little or no hazard is useful in my opinion chiefly in order to determine whether symptoms or signs which may be present are due to lead exposure, or are due to other disease processes. In other words, it is a method to be employed for differential diagnosis.

In the main if men are under proper observation, active treatment for lead intoxication will seldom if ever be required. Early symptoms and signs should be detected by any medical man who is really interested in the welfare of the workmen, and it is certainly true that if men are removed from hazardous exposure in time, the more serious types of lead poisoning do not develop. May I again stress the point, however, that in my opinion the continual careful medical supervision of men who are working in an unnecessarily hazardous lead trade, is not only futile but is in violation of a proper medical point of view. I do not understand how any well trained or well intentioned medical man can be willing to accept the responsibility for such a plant except for the period of time which is necessary to properly study the hazards and to properly evaluate them. After they have been pointed out, it is imperative that they be removed. No other course of action will serve the purpose of safety.

I can not vouch for Dr. Gehrmann's point of view about the desirability of deleading persons who have absorbed considerable amounts of lead. My own feeling which is founded on an adequate experimental basis as well as some clinical experience, is that it is unnecessary, that it does not fulfill its purpose, and furthermore, that it is dangerous.

In relation to the second of these points I would ask what possible advantage could be obtained from a few days or few weeks of increased excretion in the case of a person who has some hundreds of milligrams of lead in his tissues. The results will obviously be to remove only a small percent of the lead which is present, leaving the rest to be removed by time. Now, if this is the case, why not allow time to and normal physiological processes to do the entire job. This is particularly true when one recognizes that there is always a risk in undertaking any measures which increase the lead in the circulatory blood. It is true that this has been done in adults without serious clinical effects. On the other hand the opposite is true in children and furthermore I am convinced that this method is likely to increase the amount of lead in the central nervous system, from which it seems impossible for it to escape.

You may or may not regard this letter as a satisfactory answer to your questions. However, if I can be of any further service to you in this matter, kindly write me.

Very truly yours,