November 21, 1939

Dr. Henry Field Jr.
University Hospital
Department of Internal Medicine
University of Michigan
Ann Arbor, Michigan

Dear Doctor Field:

In reply to your letter of November 14th, I wish to confirm the conclusions arrived at in the published article to which you refer, in that we have had occasion to study a rather large number of persons who have had significant exposure to lead compounds at various intervals after the cessation of their exposure. The two groups given in the article illustrate fairly well the course of events. The lead excretion drops off rapidly for a time after the cessation of exposure, then more slowly for a rather prolonged period, finally returning to the normal level when the abnormal quantities of lead have been lost from the body. Analyses on necropsy material from persons who have had significant occupational lead exposure have shown that the lead in the body returns to normal levels within a period of from six to eighteen months, dependent primarily upon the quantities of lead involved. Indeed we have never seen abnormal quantities of lead in any of the tissues of the body (with the exception of the brain in one or two instances), if as long as eighteen months have elapsed since the cessation of exposure and the death of the patient. We are quite confident, from a large number of direct and indirect observations, that there is no such thing as inert lead in any part of the body, including the skeleton, and that lead absorbed into the tissues is lost progressively under normal conditions until the tissues reach an equilibrium with the lead intake from the normal environment. We feel quite sure, therefore, that high levels of blood or urinary lead years after the cessation of occupational exposure are indicative of a continued or recurrent exposure to lead of some type. Indeed if I found elevated levels after the lapse of four years, I should feel quite certain that some new type of lead exposure had supervened, regardless of the magnitude or duration of the occupational exposure.

It may interest you to know in this connection that we have seen two cases with high blood levels and elevated levels of lead excretion years after the cessation of exposure, in which we were able to prove the self-administration of lead for the purpose of deceit in relation to compensation.

Cordially yours,

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Robert A. Kehoe, M.D.