

ST. JOSEPH LEAD CO.
250 PARK AVENUE
NEW YORK 17, N. Y.

COPY

FOR Mr. B. F. Murphy

Lead
Subject *Sickness*
File in No. *110*
Cross in No. _____

February 21, 1947

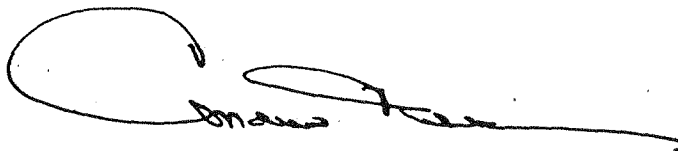
Mr. F. E. Wormser, Secretary
Lead Industries Association
420 Lexington Avenue
New York 17, N. Y.

Dear Mr. Wormser:

We are enclosing copy of a letter from Professor Drinker of the Department of Industrial Hygiene, Harvard University, under date of February 19, 1947, with attached copy of letter from Dr. Clinton, relative to the use of citrate therapy in lead poisoning.

It seems to us that one of the battery manufacturers in the LIA might be willing to undertake the study.

Yours very truly,



Executive Vice President

AF:MB

Enc.

c.c. - Mr. B. F. Murphy ✓
Mr. R. T. Cornell

Memo to Mr. Murphy:

Do you think that it would be worth while for us to make a study?

Mr. Miller would like your A. F. comments.

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HARVARD UNIVERSITY
SCHOOL OF PUBLIC HEALTH

Department of Industrial Hygiene

55 Shattuck Street
Boston 15, Massachusetts

February 19, 1947

Mr. Andrew Fletcher
St. Joseph Lead Company
250 Park Avenue
New York, New York

Dear Mr. Fletcher:

Enclosed is copy of letter of February 18th from my colleague,
Dr. Marshall Clinton, Jr. to me on citrate therapy in lead poisoning.
All of us in this area have given this matter considerable thought
and study and I thought you would be interested in it.

Your comments would be appreciated.

Sincerely yours,

(Signed) Phil

Philip Drinker

pd/f



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February 18, 1947

Professor Philip Drinker
Harvard School of Public Health
55 Shattuck Street
Boston 15, Massachusetts

Dear Professor Drinker:

Recent reports (references appended) indicated that sodium citrate is an effective therapeutic agent in lead poisoning, and that the daily administration of 15-20 grams of sodium citrate to individuals with a history of long-continued lead absorption causes an appreciable increase in urinary and fecal excretion of lead. Citrate presumably exerts this favorable action by forming a soluble complex with lead which removes lead from tissues and permits its excretion. It occurs to me that prophylactic administration of citrate to workers who are unavoidably exposed to lead might be of considerable benefit. I am bringing this to your attention because I wondered whether you might not be interested in seeing such a study carried out in connection with the smelters of lead with whom you are associated. It is my opinion that a field study of the utility of citrate would have considerable practical as well as scientific value.

I would propose the following study on workers exposed to lead:

1. Determine physical and exposure status of a group of workers and measure their urinary lead output.
2. Divide them into two groups and administer sodium citrate - 10 grams daily - to one of the groups for a period of one month.
3. Check the urinary lead output of treated and control groups after 5, 10, 20, and 30 days, for purposes of comparing the lead output of the two groups. Check the physical status of the groups at the end of this period.
4. Then reverse the groups - administer citrate to those who had not received it, and give no citrate to those who had received it. Again, check the urinary lead output of both groups after 5, 10, 20, and 30 days. Determine the physical status of each group at the end of the 30-day period.

If citrate is as effective as claimed, and the workers under study are undergoing appreciable lead absorption, I should expect the following:

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1. Increased lead output when citrate is started, followed by return to usual levels as body adjusts itself to same intake but lower contained level of lead.
2. Decreased lead output when citrate is discontinued, followed by return to usual levels as body adjusts itself to higher contained level of lead.
3. Increased well-being and absence of any evidence of lead poisoning in group receiving citrate.

Such a study seems to me highly practical, although I realize that the frequent collection and analyses of urine samples which it requires would be difficult. It would be an ideal study for a few men living under controlled conditions. The variability encountered among workers living as they please would tend to be eliminated by having reasonably large groups, so that statistical analyses could be applied. The procedure of giving citrate, and the routine and intervals of collecting samples would have to be rigidly standardized to permit a statistical comparison of the results.

Sodium citrate is salty, but can be taken without difficulty if given in divided doses in a large volume of water (100-200 cc). It can be made more palatable by the use of fruit juices or flavored syrups. The doses involved are entirely non-toxic.

If such a study can be carried out, we would very much like access to the data resulting therefrom, as it would be well worth publishing, regardless of the results.

Sincerely yours,

Marshall Clinton, Jr., M.D.

MC/P

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REFERENCES

1. Kety, S. S. and Letonoff, T.V.: The treatment of lead poisoning by sodium citrate. Am. J. M. Sc. 205:406, 1943.
2. Letonoff, T. V. and Kety, S.S.: Effect of sodium citrate administration on excretion of lead in urine and feces. J. Pharmacol. 77:151, 1943.



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