

March 29, 1944

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Dr. Edwin P. Jordan,
Assistant Editor,
The Journal of the American Medical Association,
535 North Dearborn Street,
Chicago, Illinois.

Dear Dr. Jordan:

I am sending herewith a reply to the questions referred to me from your Query and Minor Note section of the Journal.

You will note that my reply is fairly extensive. The reason for this is twofold. First, there is a growing misapprehension in medical circles as to the toxicologic significance of certain very small quantities of some of the trace metals, particularly lead. It seems advisable to answer this question fully enough therefore, to clarify this matter. In my opinion it would be particularly advantageous to do this in the columns of the Journal, since there have been one or two articles in the Journal that have contributed most unfortunately to the current confusion. I refer specifically here to the article by Horatio Williams*, which was a wholly misguided article from beginning to end, and which should not have been published. The second point is that it is rather necessary that a wider segment of the medical population should appreciate the fact that small quantities of lead get into food and beverages from a large number of sources. In this situation it is necessary that doctors have a clear concept of the quantitative differentiation between the safe and dangerous lead exposure. I trust that what I have said will not be too extensive for use and that it will serve your purposes as well as those of the questioner.

Very truly yours,

Robert A. Kehoe, M. D.

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Enc.

The Journal of the
American Medical Association
535 North Dearborn Street
Chicago

*Morales R.
Represented Williams*

In your reply please
refer to these initials

EPJ

Jama 112: 534, 1939

March 15, 1944

Dr. Robert A. Kehoe,
Cincinnati, Ohio

Dear Doctor:

We are in receipt of the enclosed inquiry
from one of our subscribers. Would you be good
enough to prepare a reply for publication in the
Queries and Minor Notes department of The Journal?

Thank you for your courteous attention.

Very truly yours,

Edwin P. Jordan

EDWIN P. JORDAN, M.D.
Assistant Editor.

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There are many references in medical literature to widely varied sources of contamination of milk and other beverages including water, as well as foods. However, reports of cases of lead poisoning are relatively infrequent and are not always substantiated by acceptable evidence. No doubt the comparative rarity of such cases is due to the fact that these contaminations are usually small, and except in the case of certain community sources of water supply, are spotty in their occurrence and so do not result in regularly repeated exposures to hazardous dosages. Milk and many other foods take up lead from containers that are soldered on the inside and from utensils coated inside with tin-lead alloys. The use of new skillets coated thinly with tin-lead alloys is a particularly fruitful source of contamination, but their coating of tin (containing lead) tends to be melted off soon, and the remainder becomes coated with a film which reduces the contact with the food. Lead-glazed containers may also contaminate food and beverages that have solvent properties. Old pewter of high lead content is generally unsatisfactory as a container for beverages, especially those of high acid content, although here too the surface becomes coated and resists solution to a considerable degree if it is not cleaned frequently with abrasives. Much of the modern pewter has a low or negligible lead content but unfortunately one cannot always be certain this is the case.

The important consideration in this entire problem is the regular daily dosage of lead in the food and beverages from all sources. If this is much in excess of 0.5 mg. of lead over any considerable period of time (months) in the case of adults, it

constitutes a potential hazard. In the case of children the daily dosage should be limited to a somewhat lower level. Poisoning does not occur in either adults or children from occasional ingestion of considerably larger amounts or from regular ingestion of amounts of the order of magnitude of 0.2 to 0.3 mg. per day in the food and drink.