

November 3, 1972

Dr. James A. Taylor
Delco Remy Division
General Motors Corporation
Anderson, Indiana

Dear Doctor Taylor:

I am glad to put myself on record, in reply to the question which you raised on the telephone, some days ago. The question relates to the degree of hazard due to the absorption of lead incurred by a mother, and of her child, in consequence of the exposure to lead occasioned by her employment in an industry involved in the handling and use of lead, during the child-bearing period. It can hardly be answered categorically, in the given situation, without full knowledge of the employment situation. I shall first present the information which is available on this subject, and then give my opinion as to the details of a situation which I would confidently expect to be safe. Let me say also, and as a first principle, that under the current legal situation, for the avoidance of discrimination against women, it is necessary to give careful thought to this matter, and not be guided by what may be an ancient prejudice.

The facts in the matter of women, within the child-bearing period of life, in relation to exposure to lead in industry or otherwise, are not very different from the facts which apply to men. The alleged "susceptibility" of women to lead does not, I think, exist.

The problem of the fetus, born alive, is something else, and is not altogether clear, in practical terms. As to the liability of miscarriage, I cannot speak from experience, but it is generally believed, by physicians, to be such a factor that the pregnant woman is a potentially hazardous employee in lead trades in which exposure to lead is likely to be fairly severe. I do not believe that this is an important matter in situations in industrial work in which the exposure to lead is adequately (i.e., fully) controlled (this means that male employees are so well protected and supervised as to be entirely free of lead poisoning) for such a period of time as to demonstrate that no such actual risk exists. The fetus, itself, handles lead (absorbed through the placenta) not so well as does the adult. The distribution of lead in the body of the human fetus, or in that of the infant, is somewhat different from that in the adult in that a lesser proportion of the total lead in the body finds its way into the fetal or infantile (not fully developed) skeleton, which means that an enlarged proportion of the lead in the body occurs in the soft tissues. On the other hand, the tissues of the fetus (including the bone) of a lead-exposed mother, are lower in their lead content (in terms of concentration) than are the corresponding tissues of the mother, which means, I think, that the initial distribution of

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lead in the body of the mother tends to spare the fetal body from the full effects of the material absorption of lead. (This entire matter of the danger to the fetus of lead absorption by the mother has not been elucidated fully, and there is no point in acting as though we understand the matter fully. Moreover, in every situation of doubt, we habitually foresee the most severe consequences.)

I would say of this entire matter, that the problem of the absorption of lead as an hazard of industry, is that of controlling the exposure of all workmen to such an extent that no case of lead poisoning occurs among either men or women. I am confident, that if this is done (and it can be done by a suitable effort in preventive engineering and preventive medicine), we shall not need to differentiate between men and women of any age. Until this is done, I believe we shall have to exclude pregnant women from employment in the recognizably dangerous lead trades.

Sincerely yours,

Robert A. Kehoe, M.D.
Professor Emeritus of
Occupational Medicine

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