

of investigative work. Long experience has revealed situations in which trouble may occur. Many of these have been described in the literature, but the investigator must always be alert for new and unexpected sources. An additional condition appears to be necessary for carrying out reliable lead analysis. This condition deals with the continued daily use of a procedure and the proficiency of the analyst. The constant application of a method by proficient technicians under competent and knowledgeable supervision will be found, as a rule, to yield findings which are more reliable than those obtained in laboratories in which samples are submitted sporadically, requiring, perhaps, the preparation of fresh solutions and the setting up of the equipment or the assigning of different technicians, depending on their availability, each time samples are submitted. Under the latter conditions, it is far better practice to send the samples to a laboratory in which such work is being done regularly and with all the necessary precautions against chance errors. There are 20 references. -- Author's conclusions

- 467 Normal Metabolism of Lead. R.A. Kehoe.  
Arch. Environmental Health 8, 232-235 (Feb. 1964).

Lead occurs naturally in virtually all foods and beverages, and their natural content is augmented somewhat by a large number of mainly small increments from a variety of sources. The "average" or "normal" (in the sense of usual) adult takes in quantities of lead in the composite bulk of his food and beverages, which vary commonly (98% of the time) from somewhat less than 0.1 mg. to somewhat less than 0.6 mg. and range occasionally, as the result of an unusual degree of contamination of one or more specific items, up to several milligrams per day. Individuals within the normal population vary in their dietary intake of lead, according to their size and appetite (quantity of food consumed), their habits (including their selections) of eating and drinking (qualitative composition of diet), and with a variety of other local or general factors. On the whole the degree of such variability is limited, in the quantitative sense, because of the generally low levels of concentration of lead that occur naturally in foodstuffs, and because of the increasing care and cleanliness which characterize the handling, processing, packaging, and final preparation (cooking and serving) of food in the United States. The mean quantity of lead ingested regularly by 10 healthy adults (experimental subjects) in their food and beverages, over periods of time extending beyond 2 years, ranged from the low value of 0.12 mg. to the high of 0.35 mg. of lead per day; 5 of the 10 subjects varied, in this respect, only between 0.21 and 0.25 mg. of lead per day. Certain normal, healthy individuals engaged in hard work have been found to consume sufficiently large quantities of food to elevate their mean intake of lead above 0.4 mg. per day. Available evidence provides little reason for believing that there is a progressive increase in the lead content of the human body with age under strictly "normal" environmental conditions.

- 468 Metabolism of Lead Under Abnormal Conditions. R.A. Kehoe.  
Arch. Environmental Health 8, 235-243 (Feb. 1964).

The experimental observations summarized in the present article have been concerned with the retention of lead in the bodies of experimental subjects, and with the release of such lead following the termination of the experimental administration of lead, as determined indirectly by the differences between the intake and the output of lead as measured. Direct observations have been made, as opportunity has been afforded at necropsy, to obtain the tissues of persons whose exposure to lead during life, had varied in duration, in the actual time during life, and in severity. The most informative data have come from the analysis of the tissues of fatally poisoned children, since these fatalities, as a rule have resulted from the direct effects of lead intoxication uncomplicated by chronic disease. Several facts have emerged from such data: The clinical severity of the intoxication in these cases has varied not so much with the body burden (total quantity of lead in the body) of the deceased, as with the general level of the concentration of lead in the soft tissues, the latter being related to the immediate age and the speed of its absorption. The concentration of lead in the brain in lead encephalopathy

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