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Lead in Human Tissues

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Tissues from 47 white males exposed to the "normal" Cincinnati environment have been analyzed for lead content. The individual ages ranged from 20 to 84 years spread relatively evenly over the decades. The tissues were dry ashed using nitric acid as an ashing aid and the lead was measured by the dithizone method. This report will focus primarily on normal levels of lead in the various tissues and will discuss changes seen with age. Brief comments will be made on methodology and on changes in lead concentrations associated with pathological conditions of the organs.

Although lead concentrations in calcified tissues (bones and aorta) increased with age, in several tissues the lead concentrations tended to decrease. These decreases were associated with pathological changes. The overall rate of increase of lead levels in the ribs and vertebrae tended to plateau in later years, in conttast to the skull and tibia which continually increased. These observations are important in considering estimates of human body burden of lead.

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