

- 435 Fluoride Exposure and Worker Health. O. M. Derryberry, M. D. Bartholomew and R. B. L. Fleming. Arch. Environmental Health 6, 503-514 (Apr. 1963).

Clinical and laboratory studies were conducted to assess the health of a group of workers exposed to fluorides as compared with a group of workers equivalent in age, race, and living standards without industrial exposure to fluorides. No disability attributed to fluoride exposure was encountered in any of the individuals in this study. Minimal or questionable degrees of increased bone density were found in 23% of the fluoride-exposed group. In no case was the bone change clear-cut or of sufficient degree to be recognized in routine radiological practice as increased osseous radiopacity. Abnormal findings related to the gastrointestinal and cardiovascular systems occurred in the two groups with approximately equal frequency. Those related to metabolic conditions and hematometry were found more frequently in the control group. These findings do not present evidence that exposure to fluorides produces adverse effects on these systems. The fluoride excretion level of 4 mg. of fluoride per liter in urine samples collected at the end of the work shift has been found to serve as a useful reference level for evaluating atmospheric fluoride exposure where industrial environmental concentrations vary widely and in determining the probability of incurring increased bone density.

-- Cond. from authors' summary

- 436 Pathology of Acute Salt Poisoning in Infants. N. W. Elton, W. J. Elton, and J. P. Nazareno. Am. J. Clin. Pathol. 39, 252 (Mar. 1963).

Six fatalities resulted from the accidental substitution for a period of 3 1/2 days of salt for sugar in the formulae of 5 newborn and one 8-month-old infant. The characteristic microscopic lesions was a dehydration shrinkage of the convoluted tubules in the kidneys. Three showed amorphous acidophilic casts in the collecting tubules. In one a necrotizing arteritis was found in the lung. Suppurative pneumonitis, often centered around vascular channels was noted in the 5 newborn. Brain lesions consisted of subarachnoid and intraventricular hemorrhage in 2; sagittal sinus thrombosis in one, and microscopic evidence of vascular thrombosis and balloon-like over-distention of capillaries of the leptomeninges or both in 4. Renal infarction associated with vascular thrombosis was noted in one infant. The common etiological factor is evidently hyperosmolality, induced by hypernatremic hypertonicity of intravascular and interstitial fluid.

-- J. Am. Med. Assn. References and Reviews

- 437 Assimilation and Metabolism of Chromium by Trout. P. O. Fromm and R. M. Stokes. J. Water Pollution Control Fed. 34, 1151-1155 (Nov. 1962).

Exposure of trout to different concentrations of chromium (as chromate) have shown that: the fish can accumulate chromium from water containing as little as 1 mg./1,000 liter of the metal; at a concentration of 0.01 mg./liter chromium and below, the uptake of chromium levels off after 10 days' exposure indicating excretion is equal to uptake; and uptake of chromium by fish is passive, thus the amount accumulated is dependent on the concentration in the water and the duration of exposure. The in vitro respiration of pyloric caeca, liver, and kidney tissue from fish exposed to 1 mg./liter chromium for up to 39 days was not significantly different from that of control fish. On the basis of the above findings, suggestions for the disposal of chromium wastes have been made.

-- Public Health Eng. Abstrs.

- 438 Potential Hazard of Exposure to Lead. I. Handling and Use of Gasoline Containing Tetramethyllead. R. A. Kehoe, J. Cholak, J. A. Spence and W. Hancock. Arch. Environmental Health 6, 239-254 (Feb. 1963).

The appraisal of the environmental conditions under which the employees of a taxicab company worked was accomplished, during each of 3 successive periods of the investigation. The observations, sampling procedures, and analytical determinations were made within the garage. The data on atmospheric lead in the garage at various times are presented. The grouped findings with respect to velocity of air movement, prevalent temperature, and concentration of carbon monoxide in the air of the garage, observed during the 3 periods of the observations are given. In view of the negative outcome of this investigation, from the aspect of the revelation of a potential hazard due to the absorption of lead in association with the use of tetramethyllead,