

when sulfur dioxide was administered by nose, nasal flow resistance (Rn) was measured by means of a catheter placed in the posterior pharynx. The increase in Rl was greater when sulfur dioxide was administered by mouth than when it was administered by nose. Similarly, irritative symptoms of the posterior pharynx and chest were more common during exposure by mouth. These findings suggest that the mouth is less effective than the nose as an absorptive surface for sulfur dioxide.

-- Authors' abst

- 370 Fecal Excretion of Iron and Tin by Men Fed Stored Canned Foods, D. H. Calloway and J. J. McMullen. *Am. J. Clin. Nutr.* 18, 1-6 (Jan. 1966).

Packaged military rations (C ration) were stored at 1°C. (33.8°F.) and 37°C. (98.6°F.) for 20 months prior to feeding to human subjects for successive 24-day periods. Storage for an excessive time at the unusually elevated temperature increased the iron and tin content of the ration from 30 to 80 and 200ppm (dry solids), respectively. Fecal excretion accounted for the tin ingested, and for about 80% of the iron from a control diet and the ration stored at cold temperatures (1°C.) but only for 54% of the 64 mg. daily intake of iron provided by the ration stored at 37°C. A relationship of iron absorption to marginal pyridoxine intake is suggested.

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

- 371 Concentration of Lead in Bone in Plumbism, M. P. Westerman and W. N. Jensen. *New Engl. J. Med.* 273, 1246-1250 (Dec. 2, 1965).

Descriptions of lead poisoning include repeated observations that persons or animals with apparently similar exposure may have different degrees of severity of symptoms. The ability to make accurate measurements of lead concentrations in the environment, body tissues and fluids has provided more precise means for examining the relation between the development of symptoms and the exposure to lead. The simple semiquantitative methods for the detection of certain intermediate compounds of porphyrin or heme synthesis that are present in increased amounts in the tissues or excreta in plumbism indicate biologic abnormality in lead exposure. The differentiation of lead exposure and lead intoxication has been made in clinical, industrial and legal terms but has not been precisely described in terms of cytologic, biochemical or cell-organelle damage. It seems probable that damage to cells exists with or without overt symptoms or signs of disease. The reasons for the differences in symptomatic, biochemical or cytologic responses observed when human beings or animals are exposed to lead are still largely unknown. Some of the possibilities are that the degree of abnormality is related to differences in total body lead, to the tissue distribution of lead, to concentrations within certain cells or subcellular organelles or to genetically determined differences in enzymatic or nonenzymatic proteins. Observations were made to describe the distribution of lead in various tissues and to determine whether localization in certain tissues or body fluids might be closely related to the symptomatic, biochemical or cytologic differences. Concentrations of lead in bone, blood, and urine before and after a chelation load were measured in 12 persons exposed to lead in the performance of their work in a bathtub-enamel factory. One of the 12 was studied at regular intervals for more than three years. The observations reported suggest that determinations of lead in the bone marrow may be a useful aid in the evaluation and management of patients with plumbism or exposure to lead. There are 33 references.

- 372 Chronic Manganism: Preliminary Observations on Glucose Tolerance and Serum Proteins, M. Hassanein, et al. *Brit. J. Ind. Med.* 23, 67-70 (Jan. 1966).

An intravenous glucose tolerance test was carried out in 11 patients with chronic manganese poisoning. Prolonged reactionary hypoglycaemia was observed. The underlying mechanism is discussed. It may be due to a disturbance of the hypothalamo-pituitary-adrenal axis. In seven of these patients total serum proteins were estimated and were separated electrophoretically. The albumin:globulin ratios were lower in patients than in controls. There were significant reductions in serum albumin concentrations and increases in concentrations of alpha₁ and beta globulins.

-- Authors' abst.

- 373 The Joint Action of Small Concentrations of Acetone and Phenol in the Atmosphere on Man, U. G. Pogoyan. *Gigiena i Sanit.* 30, No. 7, 3-9 (1965), Russian.

The paper contains the results of an experimental study on the effect of phenol and acetone jointly present in inhaled air. A study of the reflex effect of micro-concentrations of acetone and phenol on the human body revealed a complete summation of their effects. In a three-month-long chronic poisoning test, the author observed the general state, the behavior, and