

- 379 Occupational Deafness in Weavers. M. Rodda, L.J. Smith, and G.D. Wilson. New Zealand Med. J. 62, 183-186 (April, 1963).

Audiometric tests were carried out on 41 weavers employed in two mills, where the sound pressure levels were 107 and 108db (re. 0.0002 dynes/sq.cm.). The tests took place 15 minutes after removal from exposure. The pattern of hearing loss observed at frequencies below 2000 c./sec. were affected by a difference in the noise levels in the two testing locations. The weavers were found to suffer a mean hearing loss greater than that expected from presbycusis alone, and the dip appeared at 3,000, 4,000 or 6,000 c./sec. The maximum occupational loss appeared in the group with 20 to 25 years' service, and the authors suggest that this is an indication that the more susceptible employees become aware of the onset of loss of hearing caused by their occupation and leave the industry. The finding that the dip in the group with the longest service (35 to 40 years) occurred at 6,000 c./sec., whereas that for most of the other workers occurred at 4,000 c./sec. is taken as confirmation of this hypothesis (loss at 6,000 c./sec. being less noticeable than loss at 4,000 c./sec.) A comparison of mean hearing loss over the range 1,500 to 8,000 c./sec. for 13 males and 13 females, matched for length of service, showed no significant difference.

-- Cond. from Bull. Hyg.

RADIOACTIVITY AND X-RADIATION

- 380 Thorotrast-Induced Carcinoma of the Liver. D.A. Person, S. Thornton, and E. Issac. Arch. Surg. 88, 503 (March, 1964).

A fatal carcinoma of the liver occurred 24 years after thorium dioxide (Thorotrast) was injected to outline liver abscess. Earlier x-rays showed typical thorotrast deposits which were verified at surgery, necropsy, and by whole body counting. The whole body counter identified the radioactive material as Thorotrast, localized the deposits, and evaluated the total body burden. Early excision of localized deposits is recommended to prevent carcinoma.

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

- 381 Measurement of Radioactive Contamination by Whole Body Spectrometry. J.E. Colard, et al Health Physics 10, 15-23 (Jan. 1964).

This paper describes a whole body counter which was used to measure contamination levels of persons over the past 3 years. The results from 2,600 measurements and the evolution of the mean cesium-137 body burden activity from 1959 to date are discussed. Owing to the sensitiveness and selectivity a total whole body counter is essential for the control of the personnel in institutions where unsealed sources of radioactive products are handled. Such a device was used to study the iodine metabolism and to check the validity of a proposed model.

-- APCA Absts.

- 382 The Biological Reaction to Ionizing Radiations. Atomic Structure. T.P. Sears. J. Periodontol. 34, 174-182 (March, 1963).

Basic principles of nuclear physics are surveyed in relation to biological and medical aspects of ionizing radiation. A discussion is presented of the following theories of biological injury: the theory of point heat, the radiochemical theory, colloid chemical theory, physiochemical theory, disruption of tissue molecules by breakage of valence bonds, and theory of chromosomal injury. The irradiation syndromes are discussed, including: radiation sickness, the neurological syndrome, the gastroenteric syndrome, and the bone marrow syndrome. It is concluded that definitive data on biological injury, genetic mutations, maximum permissible exposure, and the chronic effects of radioactive fallout are not

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