The collection of this kind of mortality data would be helpful, as it may be that the appearance of excessive amounts of β_2 microglobulin in the urine may be similar to the abnormalities found in lead absorption, e.g. raised ALA dehydrase levels. Thus, the critical effect level, which is based on the risk of kidney impairment (the production of increased amounts of β_2 microglobulin), may not be valid as a critical amount to which people should not be exposed in the general environment.

In a changing environment, change in the response of the human does not always mean that there is an effect on mortality or morbidity of the person concerned.

Most of the world literature concentrates on the renal effects of cadmium, but it is well known in the industry, particularly where cadmium fume is produced, that where death results it is most certainly due to lung pathology. It is not very well documented that kidney failure is very rarely reported in mortality studies of people who are exposed to very large amounts of fume; for example, in the cadmium/copper industry where exposures during wartime exceeded 200 times the present threshold limit value for respirable fume.

The most interesting feature of this report is an evaluation of safety factors, which compares tentative threshold effect levels and the estimated current amount of cadmium absorbed. If the recommendations of this group were to be accepted, then it is difficult to see how industries which handle cadmium and its compounds could continue to function.

H. HOLDEN

Hygiene Standard for Cadmium. No. 6 of a Series produced by the British Occupational Hygiene Society. Committee on Hygiene Standards. Published in *Annals of Occupational Hygiene* (1977), 20, 215-228. Price £2.00 from Mr P. J. Hewitt, Honorary Business Secretary, BOHS, University of Bradford.

This latest addition to the Hygiene Standards series of the British Occupational Hygiene Society deals with a current problem the importance of which is shown by the increasing number of papers on this subject; there is considerable activity both in America and Europe with demands for stricter standards and a reduction of pollution levels in air and water effluent.

This hygiene standard gives a short summary of the effects of cadmium on the human body and differentiates between the effects of cadmium oxide fume, cadmium oxide dust, and cadmium sulphide pigments. The suggested standard includes three categories of exposure levels, one for cadmium fume (or other respirable compound) of 50 $\mu\text{g}/\text{m}^3$, which is similar to current standards in most other countries but does not go as far as the standard of 20 μg which is used in Sweden, or the NIOSH 40 μg TLV. The level for soluble cadmium dusts, that is dusts which are soluble in 0.1N hydrochloric acid, is a departure from previous standards and indicates the differing absorption levels between the various cadmium salts. It has been known for some time that cadmium dust workers and cadmium pigment workers show kidney changes, such as excess β_2 globulinuria, but in cadmium copper alloy workers exposure to fume causes both kidney changes and lung damage. There is very little emphysema among cadmium oxide battery and cadmium sulphide pigment workers, and this seems to be partly a function of particle size but also has something to do with the solubility of such particles in biological fluids. The standard for soluble dust, (total dust, whether respirable or not) therefore, is 0.2 mg/m^3 . The total weight of the acid-insoluble compounds should not exceed the nuisance dust level of 10 mg/m^3 .

The difficulty of estimating whether renal tubular dysfunction contributes to an alteration in the morbidity or mortality patterns of the cadmium-exposed worker is an obvious area where practical epidemiological studies in the workplace are going to help to settle this very vexed question. Increases in the total amount of β_2 globulin excreted in the urine have been noted in all cadmium workers, but the significance of this change can be ascertained only by long-term epidemiological studies which will indicate alterations in the mortality and morbidity patterns of the workers. Because of the small number of people involved it is to be hoped that future surveys will, for example, combine all UK cadmium workers or all European cadmium workers so that significant conclusions can be reached.

A controversial aspect of the standard is the new Special Short Exposure Limit for cadmium fume. Although it is a practical response to the occasional need for the workers to be exposed to levels much higher than the normal time-

weighted exposure it can be applied only when the airborne concentration is known before the work is undertaken; this is seldom the case. However, it has been pointed out that the same problem arises with any peak value and it is possible that an integrating dosimeter will be developed. The Standard generally is a practical approach to the care of cadmium workers and will be welcomed in most industries where cadmium is used, even though there is sure to be an outcry from the purist who is interested in the kidney tubule.

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Notice

Occupational Dermatology Symposium

This course, which will be held at the University of California Hospital, San Francisco, March 26-28, 1979, will summarise principles and practices of occupational dermatology, stressing the latest relevant advances. Presentations are aimed at physicians, nurses, and allied health scientists involved in the prevention and treatment of occupational skin disease. Workshops and field trips are on an optional basis. The course is jointly sponsored by the ICDRA, NACDA, NIOSH, and the University of California. For information, write to Extended Programs in Medical Education, University of California Hospital, San Francisco, California, 94143, USA, or telephone (415) 666-4251.