

- 540 Physiological Aspects of Work Measurement. L. Brouha.
Occ. Health Rev. (Ottawa) 16, No. 4, 3-7 (1964).

The pulse rate curves can be used as an index of the stress imposed upon the worker by his activity and the environment in which he performs it. Onset and course of increasing strain leading to fatigue can be detected, and work being performed at too great a physiological cost can be identified. Whether the work itself requires too great an expenditure of energy or whether environmental stress transforms a moderate task into a heavy one can be determined by studying the same operation under varying conditions of environment. It is fully acknowledged that pulse rate records do not evaluate all the factors affecting work performance. Yet they have repeatedly provided a very useful method for quantitative evaluation of the adaptation of workers to the stresses of their work. No trouble, time, or expense should be spared to build up a sound basis for the selection, placement, and training of workers, whether healthy or physically handicapped. "The right man for the right job" should no longer be in the realm of wishful thinking, but should really mean greater productivity through maximum efficiency at minimum human cost.

-- Author's abst

- 541 Fatigue and the Physical Environment. J. R. Brown
Occ. Health Rev. (Ottawa) 16, No. 4, 15-20, 22 (1964)

The various factors of the physical environment have been discussed in relation to their effect on human fatigue and productivity. Although the cause, effect, and remedy is generally well known, adverse physical environments are still commonplace in many of our factories and workplaces. The detection and control of such environments is properly the responsibility of the industrial hygienist and the economic importance of this control emphasizes the need for suitably qualified personnel in all our major industrial undertakings. There are 36 references.

-- Author's abst

- 542 Hearing Loss: Diagnosis and Anatomic Considerations. East Range Symposium.
C. J. Holmberg. J. Occ. Med. 7, 138-144 (April, 1965).

The subject is discussed under the following headings: Sound and noise, anatomy, external ear, the middle ear, the inner ear, diagnosis of hearing loss, conduction loss, sensorineural or nerve-type hearing loss, tests and evaluation of hearing loss, and noise-induced loss. Noise-induced hearing loss first affects the hearing of sounds higher in frequency than those necessary for communication by speech, and may pass unnoticed unless detected by suitable hearing tests. Many severe exposures can produce a permanent hearing loss that may affect communication by speech. Serial audiograms of persons exposed to noise shows a characteristic progression of hearing loss. Ear losses appear in the region between 3,000 and 6,000 cycles. Usually these losses occur first at the 4,000 cycles, and then spread in both directions until the hearing for most of the audible frequencies is affected. The extent of the spread depends on the amount of noise sustained. Hearing at the speech frequencies is usually not noticeable unless losses at the speech frequencies (500, 1,000, 2,000 cycles) are 20 decibels or more. Substantial losses may occur before a person becomes aware of the effect of noise exposure on his hearing. Loss from noise exposure is slow and insidious and it is not uncommon for several years of exposure to elapse before the individual is aware of any impairment. In the usual sensorineural or nerve-type hearing loss, the audiogram shows a tendency toward substantially better hearing at 125, 250, and 500 cycles, and a decline in the higher tones above 1,000 cycles. In a hearing conservation program, the employment air conduction threshold tests are recommended. The test frequencies should be 125, 250, 500, 1,000, 2,000, 3,000, 4,000, and 6,000 cycles. These pre-employment threshold audiograms should be taken of all employees, not only those who are to work in noisy areas. Such a test may detect a very early loss that can be helped by medical treatment.