reported include specific gravity, size distribution, and chemical composition. The size dist bution was determined and confirmed by several different particle sizing methods in different laboratories. The data should be useful for comparing types of particle sizing equipment not volved in the present study, and should provide a standard for calibrating large capacity equi -- APCA Absts

PHYSICAL ASPECTS OF THE ENVIRONMENT

477 Alternobaric Vertigo—A Diving Hazard. C.E.G. Lundgren. Brit. Med. J. 2, 511-513 (Aug. 2

Results obtained from a questionnaire sent to 550 members of the Swedish Association of Spo Divers are reported. The questionnaire was designed to elucidate the frequency of vertigo, t conditions under which it might occur, the possibility that it might interfere with the diver's p formance, etc. In an additional inquiry 15 subjects who had vertigo (including some of the m serious cases) were asked to relate their experiences of vertigo on land. Differences in pres between the middle-ear cavity and the surrounding structures were of paramount importance development of diver's vertigo. Since most subjects had vertigo on the way up to or upon rea the surface it seems that a relative overpressure in the middle ear is an important factor. T conclusions are supported by two observations made by several subjects: (1) that stopping the ascent, and preferably descending again, rapidly alleviated the vertigo; and (2) that the subject could produce vertigo on dry land by forcing air into the middle ears by blowing against the cl nose. Vertigo is sufficiently common among divers and potentially dangerous enough to deser wider recognition. It is suggested that it should be known as alternobaric vertigo. Preventiv and therapeutic measures are discussed. -- Aerospace Med. Absts

478 Effect of Immersion on Intrapulmonary Pressure. A.S. Jarrett. J. Appl. Physiol. 20, 1261-1266 (Nov. 1965).

Pressure-volume relaxation curves have been determined for relaxed, breath-holding subject lying and sitting in air and water. Immersion in water resulted in a marked increase in intra monary pressure, the whole pressure-volume curve appearing to be shifted along the pressur axis. From the regression equations of the four curves the pressures at normal relaxed ches volume were calculated, and the center of pressure of the immersed chest shown to lie 19cm. below and 7cm. behind the sternal angle. The significance of this to the positioning of a dive demand valve is discussed. -- Aerospace Med. Absts.

479 Deep Diving and Short Decompression by Breathing Mixed Gases. H. Keller and A.A. Bühlm J. Appl. Physiol. 20, 1267-1270 (Nov. 1965).

A series of test dives carried out by 14 subjects in depths between 130 and 1,000 feet for peri varying between five minutes and two hours revealed that changes of inert gas in the breathing mixture (oxygen and nitrogen) permit a considerable shortening of the decompression time. T physical and physiological basis of the methods is discussed. -- Aerospace Med. Absts.

480 Participation of the Central Nervous System in Decompression. I. Rozsahegyi and B.Roth. Ind. Med. & Surg. 35, 101-107, 110 (Feb. 1966).

The central nervous system displays a great vulnerability in decompression sickness. It may damaged, not only in cases of manifest caisson disease of neurological form, but very often w out clinical neurological signs and symptoms or without any mark of decompression sickness a all. It could be demonstrated that in cases without manifest clinical signs of decompression si ness, a lasting damage of the nervous system may start (similar to the chronic osteoarthropat of caisson workers, i.e., aseptic necrosis of bones) and the probability of permanent lesion increases in a high degree, when signs of decompression sickness of any (not only neurologica form are present. If the recompression in the medical lock is not effective, the possibility of recovery is very poor. An improvement of neurological function can be seen in most cases, l a complete recovery is unlikely. In lesions of the brain-stem, which is very often damaged, psychological changes of organic origin arise. Considering the very serious, stationary conse quences, which cannot be seen in all their dimensions beforehand, the preventive measures in decompression obtain a new accentuation. The special importance of the curative recompress and of the correct effective therapy is stated by the demonstration of the possible latent damag of nervous tissue. The gravity of the chronic clinical appearance demands a perseverance in t treatment until complete recovery without residual symptoms. In prevention it is worth while to consider reduction of time spent in compressed air, to prevent saturation of so-called "slow tissues", such as the white matter of the nervous system. -- Authors' summary

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