IN RE: ABRAMS November 1992

486 The Water Requirements of Humans. N.B. Strydom, C.H. VanGraan, and L.D. Holdsworth J. Occ. Med. 7, 581-587 (Nov. 1965).

After scanning the literature on water requirements, several useful recommendations may be made about survival practices in arid or desert regions. The loss of significant amounts of b water and its accompanying deleterious, even fatal, effects should be avoided in all circumst: The following recommendations are offered for such survival situations. If lost or stranded i hot arid or desert regions, people should remain where they are. Search parties are bound t be sent out to find them. Make the best use of any available material to erect a shelter again the sun and wind. The sensible and insensible sweat losses of a man exposed to the direct ra of the sun are at least twice as high as those of a man in shade. The same holds true for win exposure. Hot, dry winds can dehydrate any individual within hours. Never shed any clothin Men fully clothed lose less sweat and pick up less heat from the sun and surrounding radiatio than scantily clothed or nude men. Clothes will also pretect against sun and wind burns. If moving is essential, this should be done at night, i.e., after 10 p.m. Never lie down in the but sit up or stand. The body surface area exposed to direct solar radiation is at its maximu when a man is lying down, less when sitting, and least when standing. The water in the radia of a truck or car is usually safe as drinking water. It may not taste good, but it may save a l It is inadvisable to drink strong saline water such as sea water. Even rinsing the mouth with waters may have deleterious effects, as part of the rinse remains in the mouth. The most ec nomic way in which to use available potable water is to take it in small amounts frequently du the heat of day. It is wrong to limit or postpone the drinking of available water until complete exhaustion is reached or to take large amount of water after long intervals. This procedure r sults in a significant wastage of water, since the body will then only excrete more urine, bein unable to absorb all the water in the tissues at once. Provided that a person is acquainted wit indigenous flora, he can supplement his water rations by squashing the juice from their leaves stems, or roots. There are 40 references. -- Cond. from authors' conclusions

487 Thermal Transients to 205°C. (400°F.) Biochemical and Hematological Effects in Human Sul jects. R.H. Murray. Aerospace Med. 37, 11-15 (Jan. 1966).

In order to evaluate the hematological and metabolic effects of brief, intense, thermal stress, clothed human subjects were exposed to thermal transients 20 minutes in duration, wall tempe ature rising 28°C. (50°F.)/minute to peaks of 205°C. (400°F.) with subsequent passive wall-c There was no evidence of hemolysis, and blood cellular elements showed only non-specific "st and hemoconcentration effects. There were no significant changes in serum electrolytes, bloo sugar, total protein or protein electrophoresis. There was an increase in tidal volume withou an increase in respiratory rate, an example of heat hyperpnea, causing an increase in blood oxygen and a fall in carbon dioxide values with consequent increase in pH. Lactic acid rose slightly and a small amount of excess lactate was generated. Lactic dehydrogenase activity decreased although there was no demonstrable change in the LDH isozymes. -- Author's abst.

488 Ten Years of Hearing Protection in the Royal Netherlands Air Force. G. Jacobs and A. Westerlaan. Ned. Militair Geneesk. Tijdschr. 18, 212-218 (July, 1965). Dutch.

Results of noise protection measures in the Royal Netherlands Air Force applied for the past t years are surveyed together with new developments in the field. Several tables show the numb of personnel involved, the age differences, the hearing losses, and the improvement realized the course of ten years. Next to noise-research and the definition of acoustical criteria, audic metric control, indoctrination of personnel in noise hazards, and personal noise protection are the chief areas of concern of the Air Force Hearing Conservation Program.

-- Aerospace Med. Absts.

489 The Effect of Digitoxin on the Circulatory Response of Rats to Microwave Irradiation. T.L. Pinakatt, A.W. Richardson, and T. Cooper. Arch. Intern. Pharmacodyn. 156, 151-160 (July, 1965).

Anesthetized rats stressed by total body microwave irradiation show significant increases in cardiac output, heart rate, stroke volume and mean arterial blood pressure at a body temperatu of 40.5°C. Pretreatment of rats with various doses of digitoxin before irradiation did not prev the rises in heart rate or blood pressure. Stroke volume increases were less than those shown by untreated animals. The cardiac glycoside alone produced significant increases in cardiac ou put and stroke volume in doses of 0.04 to 0.1 mg./kg. without inducing signs of toxicity.

-- Authors' summary

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