

AUGUST 1991

Acupressure and motion sickness (University of Southampton, UK): "Motion sickness is an increasingly frequent occurrence as more and more people experience microgravity in spacecraft and as flight simulators become more sophisticated and widespread. Current attempts at prevention fall into three categories: adaptation by repeated exposure, medication, and relaxation (including biofeedback and autogenic training). Each of these has achieved only limited success, so it is still necessary to continue to explore alternative approaches to prevention and/or treatment.

"There is now a growing awareness of the therapeutic potential of Eastern approaches to medicine such as acupuncture or the use of herbs. More specifically, the technique of acupressure or Shiatsu has long been used in China to prevent nausea and vomiting during pregnancy. Recently, placebo-controlled studies have reported significant reductions in vomiting among surgical patients with the use of either acupressure or acupuncture. It, therefore, seemed worthwhile to evaluate the effectiveness of this approach to the prophylaxis of motion sickness, in which nausea and vomiting form the cardinal symptoms...

"We used 36 subjects in a double-blind placebo controlled experiment to evaluate the effectiveness of acupressure as a prophylaxis against motion sickness. There were two independent variables with two levels each: acupressure vs. placebo, and motion sickness high vs. low susceptible subjects. The provocative stimulus was rotation about two orthogonal axes. Signs and symptoms of motion sickness were scored both by the subject and the observer. In spite of previous reports to the contrary, acupressure provided no protection against motion sickness for either high or low susceptible subjects."³

AUGUST 1966

Exploding food in space (USAF School of Aerospace Medicine, Brooks AFB, TX): "Representative samples of eight unpackaged fresh foods (apples, bananas, carrots, eggs, grapes, oranges, plums, tomatoes) were decompressed in 1 second from 259 mm. Hg to 1 mm. Hg absolute pressure and then held at about 1 mm. Hg absolute for 30 minutes. Food samples with internal temperatures at the start of decompression of 24°C., 37°C., and 55°C. were observed.

"The only significant differences detected in these decompressed foods when compared to nondecompressed controls occurred in the 55°C. bananas, plums, and tomatoes which exploded. The pressure differential experienced by these foods was calculated by measuring the vapor pressure of their juices. These observations should be of value in understanding the reactions of foods exposed to rapid decompression and also to the selection of foods for use in altitude chambers and spacecraft."²

AUGUST 1941

Intelligence and flying (U.S. Army School of Aviation Medicine, San Antonio, TX): "Intelligence is too abstract a term to define definitely, but those who read this report undoubtedly have a

concept of what is being referred to. Intelligence is manifest in human beings over a wide range, levels generally recognized including idiot, feeble-minded, backward, normal, bright, very superior, and others. Many investigations have shown that the correlation between achievement and intelligence is high. Reports in general agree that intelligence is the most significant single factor in determining successful school work. From the dull or definitely subnormal one can expect little in the way of achievement. Minimum intelligence requirements for various lines of work have been worked out for about one hundred different occupations.

"The intelligence of individuals may be compared by testing using so-called Intelligence Tests, of which there are a considerable number and variety. Such tests are in wide use because they do place an individual, and compare his intelligence to the average, or to the others in the group tested. These tests are objective performance tests so that at the completion of the test one can present as a fact that the subject made such and such a performance, or made this or that score. There is no doubt that the tests do record intelligence and that their results are likely to correlate positively with achievement.

"The present methods of evaluating a flying cadet applicant's intelligence as carried out in the Flying Adaptability Rating (FAR) are not considered very satisfactory. It is also my opinion that any certain educational attainment (high school graduate, two years college, etc.) is not an adequate assurance of even average intelligence. It is also believed that to be a successful flyer requires a certain minimum of intelligence, and that to meet the present standards of the Army flying department requires a superior level...

"A minimum level of intelligence which can be measured by test is necessary to meet the standards of the flying department... Many cadet applicants scored below this minimum level, approximately twenty per cent scored below 20 [out of a maximum of 50]... A desirable procedure would be to administer an objective test to evaluate intelligence to all flying cadet applicants, on which a minimum performance will be required, regardless of educational attainments or other qualifications."¹

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