

**APRIL 2000**

*Medical contribution to flight (Editor-in-Chief):* "Civil aviation medicine has become so important to the American way of life that it is difficult to imagine our lives without it. Delivery of goods and supplies, vacation travel, expeditious business travel, and now, even 'flying offices' all contribute to our daily activities ... We are accustomed to Internet and phone access from the aircraft cabin and routinely use this mode of travel to 'catch up' on our sleep, our writing and our reading.

"The medical or health aspects of flying have been investigated by flight surgeons and related health professions for many decades ... New concerns develop each year, including transmission of airborne contagions, hypersensitive reactions to foodstuffs (i.e., peanuts), cabin 'rage,' ergonomic seating mismatches ... treatment of in-flight medical emergencies and illnesses ...

"The public largely is unaware of how prepared the airlines are for responding to medical emergencies and the supplies available to physicians and nurses on the aircraft should they respond to such emergencies. It is, therefore, the responsibility of physicians trained and knowledgeable in aviation medicine to assure a basic level of response capabilities.

"In addition to passenger medical support, there is a basic responsibility for aviation medical examiners and flight surgeons to maintain a keen vigil over the health of all those who are directly involved in providing for the safety of flight – pilots, navigators, flight attendants, air traffic controllers, flight line mechanics and so many more in the chain of responsibility. Although the risk of disaster to any given flight is quite low, it may rest upon the mental acuity and attention of a mechanic who installs a critical part on the aircraft, as well as the health of the flight crew."<sup>1</sup>

**APRIL 1975**

*Helicopters at sea (Naval Aerospace Medical Research Laboratory, Pensacola, FL):* "[S]pecial orientation problems of naval helicopter pilots engaged in operations at sea and landing on moving platforms have not been previously investigated. A questionnaire concerning disorientation was answered anonymously and individually by 104 active naval helicopter pilots. Fifty-six percent indicated one or more episodes of severe disorientation, and 8.6% indicated having experienced severe disorientation five or more times while piloting helicopters ...

"Characteristics of helicopters which are recognized as playing a role in disorientation include the helicopter's capacity for both angular and linear acceleration along three axes and occasional high-vibration levels. The effect of vibration on the vestibular and proprioceptive senses chronically and acutely in certain phases of flight may be causally related to disorientation ... Vibration can degrade visual acuity for instruments at critical times in some helicopter operations. Increasing the luminance level of the instruments may be a helpful countermeasure for this problem ... The helicopter's instability of flight and its characteristic low-altitude flight operations mean that the pilot must actively accomplish recovery and that he frequently has little time to do so. Changes in cockpit instrumentation which may reduce the frequency of disorientation include reducing the area of the instrument scan by combining flight instruments and providing command information, thereby

reducing both data processing time and the amount of head motion required to monitor the instruments. Also, removing the attitude gyro from beneath sloping glare shields and incorporating a flight director system in helicopters may reduce the frequency of disorientation experienced by helicopter pilots."<sup>2</sup>

**APRIL 1950**

*Fitness (Regional Medical Officer, Fifth Region Civil Aeronautics Administration, Kansas City, MO):* "We try to predict one's ability through fitness studies. Human capacities are studied when physical and psychological examinations are made. We try to determine the capacities that will enable a person to complete some task. If we think successful performance will be made, we say the person is fit. If we feel the person will not succeed, we say he or she is unfit ...

"We're always realistically fit. We'd like to be ideally fit. The energy causing 'real' fitness tends to destroy ideal fitting health. We are better able to satisfactorily perform tasks when physical and intellectual capacities are maintained in an ideally fit state of perfection. We will enhance aviation safety by encouraging aviators to maintain ideal physical and psychological fitness. It takes active use of energy to achieve this goal."<sup>3</sup>

*Motion sickness (U.S. Air Force School of Aviation Medicine, Randolph Field, TX):* "Motion sickness is a military problem of considerable importance, the satisfactory solution of which is not yet in sight. It has been a recognized clinical entity since the time of Hippocrates and Galen and when man took to airborne means of travel yet another form of motion sickness was added ...

"Based on a preliminary controlled study of twenty susceptible subjects, Dramamine appears to be no more effective than a placebo in preventing swing sickness ...

"Under the conditions described, hyoscine hydrobromide in doses of 0.65 mg. is from 10 to 12 per cent better than Dramamine in preventing experimentally produced airsickness ...

"Among 206 subjects given 100 mg. doses of Dramamine there occurred an 8.7 per cent incidence of undesirable side effects. With 0.65 mg doses of hyoscine hydrobromide the only undesirable side effect noted among eighty-eight subjects was dryness of the mouth which occurred in 15 per cent ...

"In a controlled study of thirty subjects, Dramamine did not adversely affect the performance of a complex coordination test or a reaction time test."<sup>4</sup>

**REFERENCES**

1. Holt GR. April 2000: Civil aviation medicine [Editorial]. *Aviat Space Environ Med.* 2000; 71(4):369.
2. Tormes FR, Guedry FE Jr. Disorientation phenomena in naval helicopter pilots. *Aviat Space Environ Med.* 1975; 46(4):387–393.
3. Platt PC. Physical fitness. *J Aviat Med.* 1950; 21(2):160–163.
4. Strickland BA Jr, Hahn GL, Adler H. Studies on airsickness. *J Aviat Med.* 1950; 21(2):90–97.

This column is prepared each month by Walter Dalitsch III, M.D., M.P.H. Most of the articles mentioned here were printed over the years in the official journal of the Aerospace Medical Association. These and other articles are available for download through the link found on <https://www.asma.org/journal/read-the-journal>.

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