

JUNE 1993

Eyeballing Marine aviators (Aerospace Medical Institute, Pensacola, FL): "In an attempt to limit safety and health risks, Naval Aero-medical Policy has historically prohibited the use of contact lenses in the Navy and Marine Corps Class 1 Aviation Personnel (pilots), approximately 18% of whom require spectacles. Recent technological advancements have rendered spectacles functionally incompatible with some mission-essential masks, goggles, and imaging devices, thus forcing a re-examination of existing policy. Recent U.S. Army and U.S. Air Force aviation studies favorably compare the performance of contact lenses to spectacles. In order to test the application of contact lenses in the unique U.S. Marine Corps aviation environment, encompassing ship-board, land-based, and forwardly-deployed units, 90 aviation personnel assigned to several deploying squadrons were evaluated for contact lenses; flex-wear disposable lenses were the primary modality of choice. Of the subjects, 68 (73%) were successfully fit and continued contact lens wear for a period of 16 months. Safety and health were not compromised, and job performance was favorably affected. No cases of ulcerative keratitis or vision loss were reported. The first U.S. Marine Corps aviation contact lens study supports the growing belief that contact lenses can be safely and effectively applied in the critical and hazardous aviation environment."³

JUNE 1968

Future of EVA (NASA Manned Spacecraft Center, Houston, TX): "The experience gained from Gemini EVA has provided information which will be extremely useful in planning future missions. There have been no indications that the efficiency of man during EVA is significantly altered. The success of Gemini XII test conclusively demonstrates that the factors producing the high workload can be overcome through careful planning of missions. We consider training extremely important in providing sufficient familiarity with equipment and time lines to help the pilot pace himself even in situations which require departure from planned tasks. Bioinstrumentation during EVA can provide an objective means of helping the crewman to pace himself. Adequate instrumentation of realistic simulation activities can be valuable in providing a prior understanding of requirements for life support systems, work tasks, and time lines. While we believe that life support system planning for the Gemini EVA was sound, we again demonstrated that man has a tremendous variability in his capacity for work output. This has been difficult for the designers of a life support system to understand and match. We have found that work tasks and time lines can be tailored so that flight objectives can be accomplished. Finally, the Gemini extravehicular program has opened a new realm of space exploration. We see no medical contraindications to proceeding with planned extravehicular and lunar surface activities."²

JUNE 1943

Selecting for airsickness (U.S. Army): "The growth of aerial transportation in the past few years has led to an increasing importance of the syndrome commonly referred to as airsickness. From the standpoint of civil air travel, it is no small problem. From the standpoint of military transportation, it may become a serious problem. Whereas civilian passengers can often casually select the conditions influencing their journey, the tactics of a given military situation preclude this choice. Whereas the efficiency of the passengers of civil transport is of little import, the aerial gunner, bombardier, navigator, and other members of a combat air crew must maintain a high degree of efficiency during flight..."

"Each individual who, because of airsickness, is unable to perform his duty effectively, represents a severe wastage of manpower and invaluable cargo space. He disrupts the organization of a maneuver as he is a casualty before operations are under way.

"Along with the other entities of the general category of motion sickness, namely sea sickness, train sickness, and car sickness, the usual symptoms of airsickness are malaise, pallor, nausea, sweating, and if in severe degree, vomiting. It is accompanied by a certain degree of inefficiency of mental and physical functions, and not infrequently by prostration..."

"The civilian airlines can control, to some extent at least, the atmospheric condition through which a given flight is to take place, but they cannot select their passengers. From the military standpoint, tactics often preclude the selection of the time, the course, and the altitude at which a combat flight, or mass aerial and glider missions are to be performed. However, the troops can be selected to a certain extent..."

"Today, much effort is being expended by many research groups for a simple, reliable test by which those who are not susceptible to airsickness may be selected."¹

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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 from Mira LibrarySmart via <https://submissions.mirasmart.com/asmaarchive/Login.aspx>.

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