

**MAY 1992**

*HIV and aviation safety (AsMA-directed ad hoc committee, Alexandria, VA):* "The focus of this paper is the subtle, but aeromedically significant neuropsychiatric changes that can occur in the otherwise asymptomatic HIV-positive person.

"The Aerospace Medical Association is dedicated to leadership in the area of aviation safety. It is therefore appropriate that we comment as an organization on this emotionally laden, poorly understood, and potentially dangerous issue...

"No current evidence contradicts the apparent invariable progression from infection to disease, and inevitably to death...

"That HIV-induced destruction of the nervous system is a common and profound problem for AIDS patients and that the virus gains access to the CNS early, are no longer contested issues. The present controversy is over the existence and significance of neuropsychiatric problems before the diagnosis of AIDS – when the person is HIV infected, but asymptomatic. Neuropsychiatric problems occurring in an otherwise asymptomatic HIV-infected person as reported in the literature are: the dementia complex, seizure, suicide, cerebral infarction, neuropathy (and myopathy), myelopathy and meningitis...

"Faced with no valid way of determining those at risk, and realizing that a high percentage of HIV-infected pilots will develop neuropsychiatric abnormalities incompatible with flight safety, the Aerospace Medical Association adopted the following position...

"The Aerospace Medical Association believes the HIV-infected pilot places the flying public at increased and unnecessary risk, and therefore supports testing of pilots for infection by the HIV virus. Individuals confirmed to be so infected should be found medically disqualified for flying duties".<sup>3</sup>

**MAY 1967**

*Manmade space capsule contamination (USAF School of Aerospace Medicine, Brooks Air Force Base, TX):* "A 27-day experiment designed to determine man's contribution to trace contaminants in a sealed environment was conducted... A total of 97 compounds were identified and quantified during the 27 days. Twenty-one compounds were noted only during the manned portion of the study... Carbon monoxide was the only compound which was produced by man at such a rate that clearly would require removal in long-term sealed atmospheric system habitation...

"The subjects experienced no obvious ill effects as a result of spending 14 days in the closed environment of the space cabin simulator. Minimal deviations in liver function studies in two subjects were the product of single determinations pre- and post-experimentally. These changes were slight, whereas the bulk of liver function measurements, including BSP retention, was normal. Serum transaminase enzymes, sensitive indicators of acute hepatocellular damage, showed no deviation. Conceivably, an additive effect of numerous atmospheric chemical contaminants, individually in sub-toxic concentrations, might exert a deleterious effect on the liver; although, this is only speculative. Cardiovascular deconditioning in the form of decreased work capacity on the

treadmill and presyncopal symptoms with tilt table tests are a function of relative inactivity with confinement and can not be considered as secondary to atmospheric components".<sup>1</sup>

**MAY 1942**

*Selection of fit aviators (Navy Department, Washington, DC):* "The selection of men for training in naval aviation is a complex problem, which requires orientation with regard to (a) the inter-relationship between and relative importance of selection and maintenance, (b) realization of the multiplicity of essential qualifications for service in naval aviation, (c) appreciation of the importance of recognizing balanced broad ability rather than of seeking isolated desirable traits in extraordinary degree, (d) the concept of selection as a continuous process and as one which should include classification for specialized training and duties, as well as the prediction of general aviation aptitude, (e) recognition of the fact that all present selection efforts presuppose voluntary entry into aviation, and (f) the absolute necessity for hardheaded validation of selection methods under actual current field conditions before accepting them for use...

"Fitness for service in modern naval aviation must include high tolerance for the conditions attendant upon prolonged high altitude flight, namely: low oxygen tension, reduced atmospheric pressure, rapid reduction in atmospheric pressure and low temperature. Ability to withstand high acceleration and fatigue is also a prerequisite...

"High emotional stability is a sine qua non for satisfactory service. Considerable range and variation in emotional pattern are compatible with success, however. A crying need for appropriate, reliable quantitative tests is intensified by the increasing stress of service in naval aviation...

"In spite of high physical standards some 25 per cent of the men who meet them fail in flight training. Personality defects rather than physiological defects may be responsible for many of these failures. Intelligence, interests, biographical material and temperament, as well as psychomotor and perceptual abilities, have been investigated with relation to aptitude for aviation".<sup>2</sup>

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3. Special committee report: HIV positivity and aviation safety. *Aviat Space Environ Med.* 1992; 63(5):375–377.

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