JULY 2000

Hypoxia … squirrel! (Université de la Méditerranée Aix-Marseille II, France): "Hypoxia-induced deficits in intellectual performance are linked to the altitude level reached, the speed of the ascent and the time spent at high altitude. This study analyzes attentional changes during adaptation to two different types of stay at high altitude on two different expeditions … When all the test administrations were pooled together for this expedition … the difference between the groups was greater for the difficult task than it was for the easy task. … For a 21-d stay at an altitude of 6542 m with the same ascent protocol as a group climbing to a lower altitude (16 d between 2000 m and 5600 m followed by a 2 d ascent to 6440 m and back again), subjects appeared to suffer from attentional performance deficits which persisted for several days after the subjects returned to normoxic conditions."[1]

Medicine in isolated environments (U.S. Navy): "With the expansion of the manned space program, an essential consideration in planning is the medical support necessary for long-term missions. Information on analogous populations serving in isolated and/or contained environments may be useful in predicting health risks for astronauts. … The present study evaluates rates of health events that occur in a highly screened, healthy military population during periods of isolation. … [consisting of] crewmembers aboard 136 submarine patrols between January 1, 1997 and December 31, 1998. … A total of 2044 initial visits to medical staff and 973 revisits for the same condition were recorded during these patrols. Potentially mission-impacting medical events reported among crewmembers were rare (i.e., among a crew of 10 individuals, only 1-2 medical events would be expected to occur during a 100 d-mission). The most common category of medical events was injury, followed by respiratory illnesses (URIs), skin problems (minor infections, ingrown toenail), symptoms and ill-defined conditions, digestive disorders, infectious conditions, sensory organ problems (ear and eye), and musculoskeletal conditions."[2]

JULY 1975

ATC interests (FAA Civil Aeromedical Institute, Oklahoma City, OK): "The interest patterns of air traffic controllers were surveyed for the purposes of a) determining the interests of journeyman controllers, b) determining the relationships of controller interests to those of other occupational groups, c) devising an interest scale for air traffic work, and d) developing a measure for guidance for selection of air traffic specialties (Terminal, En Route, Flight Service). A total of 787 male controllers from Terminal, En Route, and FSS facilities completed the Strong Vocational Interest Blank, a measure of interest patterns. … An air traffic controller scale was devised which distinguished the air traffic controllers from men in general and from men in other occupations. … [I]t was found that dissatisfied controllers scored lower on the overall air traffic controller scale than did satisfied controllers. …

"[T]hese patterns, reflected in the scale developed for air traffic control work, can be used to assess the likelihood that an individual, regardless of his abilities to master air traffic or flight service tasks, will find satisfaction in this type of work and, therefore, persist in it."[3]

Loopy fish, not pigs, in space (Ames Research Center, NASA, Moffett Field, CA): "Two fingerling fish and 50 embryonated eggs (*Fundulus heteroclitus*) were flown aboard Skylab 3 in a plastic bag aquarium. Videographic pictures were taken with the on-board color TV camera on flight Days 3 and 22 and video tapes were made for later evaluation on the ground. When observed first after 3 d in orbital weightlessness, both fish swam in tight circles for a considerable fraction of the observed time resembling the 'looping behavior' as observed in previous studies with goldfish in parabolic aircraft flight. The frequency of looping diminished slowly after the third day until normal swimming was prevalent. At flight Day 22, both fish swam normally with their backs turned toward the light source. Looping episodes could still be provoked at this time by gentle shaking of the bag aquarium. Of the fish eggs carried aboard, 96% hatched during the mission. The hatch fry displayed normal swimming behavior."[4]

JULY 1950

Flight surgery is unique (Naval Medical Research Institute, Bethesda, MD): "Flight surgery is unique among the medical specialties … in the requirement of the flight surgeon to possess an intimate knowledge of the profession of his patients. For this knowledge, the flight surgeon needs some aviation training. The question arises as to how complete this training should be. For the naval flight surgeon, full aviation training leading to the designation of naval aviator is suggested. …

"For the most part, there is a gulf separating those who fly from those who do not. … It is … natural that they should question the advice and treatment of those whom they feel do not appreciate the problems they face. In general, the flight surgeon has done extremely well in bridging the gulf between flyers and non-flyers but the naval aviator flight surgeon, accepted as a fellow flyer, is even more successful in this respect. This acceptance by aviators is invaluable to the flight surgeon in his practice of flight surgery."[5]

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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 through the link found on https://www.asma.org/journal/read-the-journal.

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