

JUNE 1998

Jet lag (National Institute for Psychosocial Factors and Health, Karolinska Institute, Stockholm, Sweden): "As part of a research program of sleep/wake disturbances in connection with irregular work hours and time zone transitions, the study aimed to describe the spontaneous sleep/wake pattern in connection with a westward (Stockholm to Los Angeles) transmeridian flight (-9h) and short layover (50 h) ... across 4 d ... We monitored 42 SAS aircrew for 9 d with activity monitors and diary before, during, and after flight ... During the outbound day the wake span was 21.7 h and 90% of the aircrew adopted local bed times on layover. The readaptation to normal sleep/wake patterns were rapid on the return. Napping was common (93%), especially on-board and before the return. Sleep efficiency dropped below 90% during layover, being felt to be too short and disturbed by awakenings, and gradually returned to normal across four recovery days. Recovery sleep was characterized by difficulties waking up and feelings of not being refreshed from sleep. Sleepiness symptoms increased during layover and gradually decreased across recovery days, still being elevated on day 4 ... In the present study we found that westward flights are associated with extended wake spans during layover, increased sleepiness, and slow recovery on return home. Strategic sleeping may counteract the effect somewhat, but individual differences are few."²

JUNE 1973

Self-destructive pilots (Office of Aviation Medicine, Federal Aviation Administration, Washington, DC): "Often the relationship between the pilot and his aircraft is such that the aircraft may be thought of as an extension of the pilot himself during the act of flight ...

"Most people live without a sense of imminent danger. They assume a myth of invulnerability in which it is felt that nothing seriously detrimental is going to happen to them. At times, this illusion has the useful function of protecting the individual from limiting his life activities and from living in a constant state of terror of the real dangers that life holds. Excessive awareness of a threatening danger can contribute to progressive psychosocial deterioration and maladaptation in the face of potentially stressful everyday situations.

"It follows that the more experience, training and competence an individual has to utilize in adapting to increased stress demand, the greater the likelihood of success in dealing with demanding flight situations. Instrument flying techniques, emergency landing, stall recovery, and other maneuvers are skills that help to keep the pilot alive.

"More important to the individual than this increased proficiency, however, is a deeper understanding of his own capabilities and limitations. He must develop a greater appreciation of the full reality of the world of risk and in the process, place less reliance on the myth of invulnerability. This understanding, of course assumes good common sense and emotional stability and does not necessarily result from flying experience. Even the technically 'competent' individual may fail in adaptation if a stress event overloads his total coping capacity. Self-destruction then can become almost inevitable."⁴

JUNE 1948

Top three drugs (University of Pennsylvania School of Medicine, Philadelphia): "It is extremely difficult to obtain completely unbiased opinion as to the action of alcohol, nicotine and caffeine. Most physicians and scientists who have worked on the subject do not seem to be able to offer an opinion which is unspoiled by rationalization.

"Since, however, these three are by far the most frequently used of all drugs, especially by aviators, it seems expedient to state certain of their pharmacological properties, as seen in the recent literature.

"The medical literature should be unbiased. The commercial literature and advertisements are apt to be somewhat to the 'left' of center. And the literature from such organizations as the [Women's Christian Temperance Union] and the Prohibition Party is certainly likely to be extremely conservative in any claims that might be made for the benefit of these drugs. An attempt will be made to be unbiased, referring to all three types of literature mentioned above, and admitting to the use of all three of the drugs under discussion—in moderation, of course."¹

Perception versus reality (University of Minnesota, Minneapolis, and Naval School of Aviation Medicine and Research, Pensacola, FL): "Nonvisual spatial orientation during flight is subject both to gross limitations and to illusions. The perception of turning and tilting to the right or left appears after a considerable lag from the actual onset of the maneuver. The direction of the bank and turn may be in error, and the estimates of the amount of bank are markedly depressed. Perceptions of both tilting and turning are transient, and disappear before the plane recovers from the turning attitude. The recovery from the turning attitude is accompanied by sensations of tilting and turning away from the direction of the preceding turn, which persist into the period of straight and level flight following a maneuver. The onset of turn and the turn proper are accompanied by sensations of tilting backward, which persist for the duration of the turn. Following recovery, the observer feels himself tilting forward after a brief period of feeling upright. The perceptions of *g per se* are strong and accurate."³

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