## DECEMBER 1997

*Sleep and aviation (National University Hospital, Copenhagen, Denmark):* "Aviation safety reports indicate that many incidents are related to fatigue. Obstructive sleep apnea (OSA) is characterized by irregular snoring with repeated apnea episodes during sleep and excessive daytime sleepiness. Deprived of sleep, patients suffer from daytime sleepiness and involuntary sleep attacks. The prevalence of OSA among adult men is more than one percent, 0.5% in women. Predisposed are men aged 40-65 yr. Many patients, including pilots, are unaware of their sleeping disturbance and the symptoms are not easily recognized. Therefore, this condition may not be discovered during a regular health examination. However, this condition can be effectively treated. In our opinion, pilots suffering from OSA do not necessarily have to lose their certificate. Diagnosis and treatment can be conducted, followed by regular checkups. We suggest that questions about sleep be included in pilots' health examinations."[3]

## DECEMBER 1972

*Altitude decompression sickness (Air Force Inspection and Safety Center, Norton AFB, CA):* "Some United States Air Force operations require crew members to fly at high altitudes protected by pressurized cabins, oxygen equipment or pressurizing garments – either singly or in combinations. Evolved gas decompression sickness can occur when the primary protective equipment or systems fail or are inadequate to protect the individual.

"Cases of decompression sickness occurring in flying operations and reported to the Life Sciences Division on Air Force Form 711gA were analyzed to determine causative factors and severity. As might be expected, the primary cause was inadequate aircraft pressurization coupled with inadequate crew denitrogenation. Most cases were bends-type decompression sickness, although six cases had central nervous system involvement. Of these six cases two required treatment in a hyperbaric chamber…

"Flight surgeons should be alert to detect those cases which will require hyperbaric therapy and be familiar with procedures necessary to obtain such therapy."[2]

## DECEMBER 1947

*Psychology and safety of flight (American Institute for Research, Pittsburgh, PA):* "[P]reliminary studies have shown that many of the psychological requirements found essential for effective work as a military pilot are also important for the airline pilot. It is also clear, however, that many of the requirements are different. It is strongly recommended that a coordinated large scale attack be made on the problem of determining the requirements for achieving maximum safety in flight. The possible errors of pilots must be known, especially to the pilots. Pilots must be assisted in obtaining all types of information and skills necessary for safe flight. Only those who have the essential aptitude and temperament requirements should be allowed to begin a career as an airline pilot."[1]

**Fig. 1.** "Subject in correct position preparatory to reaching for firing curtain. Accelerometers can be seen on the hip, shoulder, and head."

*Ejection tolerance (Aero Medical Equipment Laboratory, Naval Air Experimental Station, Philadelphia, PA):* "Results are given of sixty ejection seat experiments in which volunteer subjects were exposed to maximum acceleration in the range of approximately 18 to. 21 g [**Fig. 1**]. It is concluded that, under the conditions of the experiments, average men can tolerate this acceleration, which is adequate to eject aviators from aircraft."[4]

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