

MARCH 1994

USAF return to space medicine (USAF Medical Center Scott, Belleville, IL): "As the United States and its international partners prepare Space Station Freedom components and systems for operational readiness, and as the space medicine community expands its research efforts, the U.S. Air Force finds itself with little direct input into these endeavors. Due to fiscal and patient care commitments, the Air Force has gone from its early position of leadership and pioneering in space medicine to its present day lack of involvement. Clearly, if the Air Force wishes to have any influence in this growing field, and to continue to be considered a leader in 'Aerospace' Medicine, efforts must be made now to reinvest Air Force resources and physicians into current research and operational Space Medicine projects."⁴

MARCH 1969

Human systems integration (Federal Aviation Administration, Washington, DC, and Boeing Company, Seattle, WA): "From the early design phase of the [Supersonic Transport (SST)], a human engineering program was established by the Contractor and the FAA, in order to achieve maximum human efficiency and man/machine compatibility. This program included the development of specifications, requirements and related criteria for equipment and flight deck design, workspace layout and procedures associated with pilot performance. It was assumed from the start that the Supersonic Transport would operate in an environment and under conditions, which are more severe and demanding than that of the subsonic jets. It was also expected that more advanced technology and engineering would compensate at least partially for the increased complexity and handling difficulties of the system."²

Apollo lessons (NASA Manned Spacecraft Center, Houston, TX): "It is evident that the Apollo spacecraft... offers no undue hazard and radiation levels have not proven to be significant in the flights thus far.

"The absence of loss in red cell mass and the maintenance of plasma volume is an interesting finding and it relates to the cardiovascular and exercise capacity determinations also. It appears that even a small amount of nitrogen is protective as far as the red cell is concerned and indicates that the spacecraft atmosphere was the mostly likely cause of our findings in the Gemini series of flights... We had been hopeful that some of our cardiovascular deconditioning and exercise capacity losses would be reduced in the Apollo spacecraft due to the opportunity for intravehicular activity and exercise afforded by the larger spacecraft volume. It is evident that neither of these have prevented the cardiovascular deconditioning...

"Intravehicular activity has been surprisingly easy; the only difficulty encountered being the temporary motion sickness noted in the first few hours of the Apollo VIII mission..."¹

MARCH 1944

Air evacuation climbs in every clime (Air Surgeon's Office, Headquarters, Army Air Forces): "During the past twenty-two months, more than 125,000 war casualties (sick, injured, and wounded)

have been evacuated by air by the Army Air Forces, flying side by side with the Navy, Marine Corps, and Allied Air Forces, in every battle area throughout the world. These air evacuation missions have been across deserts, oceans, mountains, in tropical and arctic regions, and in every type of weather and climatic condition known to global air combat and travel. The patients have included, with few exceptions, every type of injury, wound, and disease, described in medical literature."⁵

No oxygen at 32,000 ft (Patterson Field, Dayton, OH): "[A] twenty-eight-year-old white male, was admitted to the Station Hospital, Patterson Field, with the complaint of severe pain in the right groin. He is an experienced flyer and former athlete, who has flown some 2,600 hours without an accident. His plane caught fire while he was traveling at about 250 miles per hour at 32,000 feet. He jumped from the moving plane at that height at about 10:30 a.m., thirty-eight minutes after taking off from Operations at Wright Field.

"His oxygen tube was torn during the jump, but the mask remained attached to his helmet by the straps, although it was not over his face. He had no bail-out equipment. He held his breath as he tumbled, alternately seeing the sky and the earth. At 30,000 feet he realized he might become unconscious and, therefore, pulled the chute cord... unable to hold his breath any longer...

"On the day following admission... the patient complained of some cramping pains in the back but no nausea...

"The patient was transferred to Billings General Hospital on a Bradford frame for further treatment. During transfer it was noted that he developed some subconjunctival hemorrhages in the sclera. These were rather extensive and involved both eyes. This scleritis persisted for five days and disappeared without treatment. He was placed in a plaster jacket in extension after reduction of the lumbar dislocation under gas-ether anesthesia six days after the parachute jump. Two months after the accident he was walking about in a plaster body cast and his general condition was excellent."³

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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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DOI: <https://doi.org/10.3357/AMHP.5338.2019>