

Changes as noted
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SKYLAB II CREW HEALTH REPORT

Pre-flight

The Flight Crew Health Stabilization Program was begun on July 7, 21 days before launch to protect the flight and backup crews from contracting a preventable infectious illness. All three crew members continued in excellent health through the pre-flight period and were pronounced fit and ready at time of launch on July 28, 1973. Concurrently, 21 days prior to launch, the crew entered into a control dietary period to meet requirements of the Nutrition and Musculoskeletal experiments. The Flight Crew Health Stabilization Program pre-flight was considered effective and resulted in the launch of a healthy crew.

Inflight

The initial inflight period of the Skylab II crew was marked by the presence of vestibular symptomology (motion sickness) characterized by feelings of lethargy, nausea, and in the case of the pilot, vomiting on two occasions. Food and fluid intake were markedly reduced from pre-flight levels, and losses in body weight from five to eight pounds occurred during the first five to six days in orbit. While the symptomology subsided in about four days with the use of medication, the crew required ^{AN} additional period to regain feelings of well-being and performance efficiency. Although slowed down because of the motion sickness, useful work was performed during the first week and the crew estimated that they "lost" only approximately three of the first seven days of work. Within a week after launch the Skylab II crew had overcome all effects of these vestibular symptoms.

The remainder of the inflight period was marked by increasing performance efficiency over time. The crew consumed food at, or slightly above, their pre-flight baseline level and maintained body weight at the level reached following the motion sickness, until about mission day 55, 4 days before the end of the flight. During the last 4 days of the mission, two of the three crewmen lost 2 to 3 pounds and this weight loss has been attributed to the heavy workload of deactivation and the shift in the circadian cycle near the end of the flight.

During the first week of the flight the CDR and the SPT exhibited a lessened tolerance to Lower Body Negative Pressure Testing (LBNP) and both of these responses have been attributed to after-effects of the motion illness. On mission days 20 and 46 the CDR again showed reduced tolerance to LBNP Testing, however, subsequent tests were conducted at pre-flight levels of a maximum of -50mm Hg and were successfully completed.

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Response to programmed exercise loads was maintained at a pre-flight level during the flight and no untoward physiological responses were evidenced. Although the data analysis must still be considered as preliminary, there appears to be some indication that the physiological response to this exercise test improved during the latter half of the mission. Inflight personal exercise periods were increased to one hour per day and all three crewmen used this time to perform personal exercise much in excess of that done by the Skylab I crew. Following the mission the crew indicated that inflight it was necessary to consume adequate amounts of water and food on time--within one hour of conventional mealtimes--to perform regular exercise and to get adequate amounts of sleep.

reduced tolerance to LBNP Testing due to discomfort from the LBNP saddle + wrist displacement was due to the test being conducted at -1 hr. P. known.

Post-flight

X The Skylab II ^{crew} splashed down on September 25, 1973, 58 days and 11 hours after launch. The command module was on the carrier deck in about 45 minutes after splash and the crew emerged about 60 minutes after splash and after they had been examined in the CM by the crew surgeon. They walked to chairs mounted on a special platform and were transported to the Skylab Mobile Laboratories for the R+0 post-flight medical examinations. Subsequent medical examinations were conducted on R+1, 2, 4, 5, 8 and 16. Plans include examinations through R+60 to document the crew's post-flight health status.

Unlike the Skylab I crew whose post-flight responses returned to pre-flight levels at R+21 to 24, ^t the Skylab II crew was essentially back to pre-flight levels by R+5 to R+8. Post-flight scheduling of debriefing activities included provisions for appropriate rest and exercise, necessary medical examinations, and a more ordered schedule of activities. This schedule appears to have had a beneficial effect on crew health.

Similar to the Skylab I crew, the main effect appears to be in the cardiovascular area, to some degree in space and to a greater degree upon return to earth. Body fluid and electrolyte balances have shown some temporary shifts, some mineral balances have changed and red blood cell mass has decreased to about the same degree as was noted on the 28-day mission. Regeneration of red blood cells has progressed in a much more rapid manner following this Skylab II 59-day mission.

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SL-4 Plans

The Flight Crew Health Stabilization Program remained in effect for 7 days post-flight and was effective. At the post-flight debriefing the CDR made special comment of the value of this program. The medical data have been reviewed at the R+21 date and subsequently with members of two special consulting groups, one dealing primarily with cardiovascular response and the second with vestibular questions. The Skylab II data reveal no contraindications for the planning of a mission of up to 85 days.

Approximately one week before mission day 59, a comprehensive review of Skylab III inflight medical data will complement the daily reviews of medical information and a recommendation regarding mission continuation will be made. Weekly reviews will continue for the remainder of the mission with approval for continuation being given for additional seven-day intervals as was done during the Skylab II mission.