

1. PROJECT TITLE (U) AVIATION PHYSIOLOGY	2. SECURITY OF PROJECT UNCL	3. PROJECT NUMBER 7758-65
	4. 84-7758	5. REPORT DATE 8 December 1959

21. d. Tasks: (Cont'd)

methods and the establishment of new methods mandatory. The investigators succeeded in these efforts and reported their results in numerous papers (see "Publications"). Especially the new indicator fractionation technique to measure the cerebral blood flow in intact human subjects offered a new approach of studying the circulatory changes resulting from altitude exposure. However, first, the unwillingness of human subjects to undertake exposure to radioactivity and, secondly, failure in the head well counter and in the rate meter, prohibited the application of the technique as planned.

Forecasted Use: Unfortunately, the problem of special interest to the Air Force -- "Are there typical circulatory changes at altitude, with or without hypoxia" -- remained unanswered. Nevertheless, the tremendous and ingenious work on the evaluation and establishment of methods and techniques by far outweighs the lack of answers to the problem in question. Many of these new methods might become valuable tools in experimental work connected with aerospace medicine.

Publications: Sapirstein, L. A., Regional blood flow by fractional distribution of indicators. Am. J. Physiol. 193, 161, 1958.

Sapirstein, L. A. and Hanusek, G. E. Cerebral blood flow in the rat. Am. J. Physiol. 193, 272, 1958.

Sapirstein, L. A. Fractionation of the cardiac output of rats with isotopic potassium. Circulation Research 4, 689, 1956.

Sapirstein, L. A. and Goodwin, R. S. Measurement of blood flow in the human hand with radioactive potassium. J. Appl. Physiol. 13, 81, 1958.

Sapirstein, L. A. and Goldman, H. Adrenal blood flow in the albino rat. Am. J. Physiol. 196, 159, 1959.

Sapirstein, L. A. Indicator dilution methods in the measurement of the splanchnic blood flow of normal dogs. In Symposium on Liver Function. Publication No. 4 of the American Institute of Biological Sciences, Washington, D.C., 1958.

Sapirstein, L. A. and Mandel, M. J. Blood flow in the aortic wall. Circulation Research, July 1959.

Federal Records Ctr., St. Louis, MO

USAF SAM RG #342

7758-65

342-62-A-5057-4/4

28 NOV 95

1. PROJECT TITLE (U) AVIATION PHYSIOLOGY	2. SECURITY OF PROJECT UNCL	3. PROJECT NUMBER 7758-65
	4. 84-7756	5. REPORT DATE 8 December 1959

21. d. Tasks: (Cont'd)

Sapirstein, L. A., Reininger, E. J., Bredemeyer, A., and Sapirstein, E. Effects of ethyl alcohol on cardiac output and its distribution in the rat. Proc. Soc. Exp. Biol. and Med. 98, 608, 1958.

Reininger, E. J. and Sapirstein, L. A. Effect of digestion on distribution of blood flow in the rat. Science 126, 1176, 1957.

Sapirstein, L. A. and Ogden, E. Theoretic limitations of the nitrous oxide method for the determination of regional blood flow. Circulation Research 4, 245, 1956.

Sapirstein, L. A. The effect of hemorrhage on the splanchnic blood flow. In Symposium on Liver Function, Publication No. 4, American Institute of Biological Sciences, Washington, D.C., 1958.

Monitor: Bruno Balke, M.D., Department of Physiology-Biophysics.

Federal Records Ctr., St. Louis, MO
USAF SAM RG #342
7758-65
342-62-A-5057-4/4
28 NOV 95