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THE OHIO STATE UNIVERSITY



RESEARCH FOUNDATION

Columbus 8, Ohio

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August 1959

Fred A. Hitchcock, Leo A. Sapirostein

USAF School of Aviation Medicine

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Federal Records Ctr., St. Louis, MO

USAF SAM, RG #342

Dr. Alfred Hitchcock, Ohio State Univ.

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28 Nov 95

RF Project 749

Report No. Final

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REPORT

By

THE OHIO STATE UNIVERSITY
RESEARCH FOUNDATION

COLUMBUS 10, OHIO

To USAF SCHOOL OF AVIATION MEDICINE

Randolph Air Force Base, Texas

Contract No. AF 41(657)-155

R and D No. 7758-65

On CIRCULATORY CHANGES AT HIGH ALTITUDES

For the period

Submitted by Fred A. Hitchcock and Leo A. Sapirstein

Department of Physiology

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INTRODUCTION

This project, which was a continuation of RF Project 596 (Contract No. AF 18(600)-910), was designed primarily to apply the indicator fractionation technique to the measurement of cerebral blood flow in intact human subjects.

Unfortunately, for reasons we summarized in our semiannual report (September 1958), it has been very difficult to secure a panel of human subjects who are willing to undertake exposure to radioactivity. The solution to this problem probably lies in establishing machinery for the payment of volunteers who are not in their reproductive years. We were prepared to do this when we had a series of equipment failures which to date are not entirely resolved. One of these failures was in the "king-size" head well; another was in the rate meter through which its counts were displayed. The well-counter has been repaired, but rate meter difficulty still exists.

Under the circumstances, it seemed best to proceed with work which would serve to gain acceptance for the principle of the methods used. During the last few months, resistance to this method has almost completely disappeared. At the time when the September 1958 report was submitted, there was still considerable skepticism, which was expressed by unfavorable action on requests for support for work employing this principle by Study Sections of the National Institutes of Health. This action has now been reversed, and the work initiated during this contract with the School of Aviation Medicine has a virtual guarantee of five further years of support by the Public Health Service. In addition, papers submitted to national journals, based on this principle, are no longer challenged on methodological grounds.

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