

# **NASA Contractor Report 4184**

## **Space Medicine Research Publications: 1984-1986**

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**Prepared for**  
**NASA Office of Space Science and Applications**  
**under Contract NASW-4324**



**National Aeronautics  
and Space Administration**

**Scientific and Technical  
Information Division**

**1988**

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## INTRODUCTION

The Biomedical Research and Clinical Medicine Programs of the Space Medicine and Biology Branch, Life Sciences Division, located within the Office of Space Science and Applications of the National Aeronautics and Space Administration, were established to investigate the major physiological and psychological problems encountered by man as he undertakes spaceflight. These programs seek to obtain a better definition of each problem and understanding of its underlying mechanism, and ultimately, a means of resolution and prevention.

Research supported by these programs is documented in this bibliography. The Space Medicine and Biology Branch has reorganized its research tasks into new disciplines: research tasks from the twelve former Biomedical Research and Clinical Medicine subject areas are now organized under seven discipline working groups. The subject headings in this bibliography therefore reflect these new disciplines. The subject headings are: Clinical Medicine, Space Human Factors, Cardiopulmonary, Musculoskeletal, Neuroscience, Radiation and Environmental Health, and Regulatory Physiology. Publications from mid-1984 through 1986 (resulting from research sponsored under the previous subject areas) are included in this bibliography. Also included are publications of the Life Sciences Flight Program investigators relevant to these subject areas since these investigators now also fall under the new disciplines. Articles are listed alphabetically by author under the subject area with which they are most closely associated.

Our intent in compiling this bibliography is twofold. First, we would like to provide the scientific community with a listing of recent publications resulting from research pursued under the auspices of NASA's Biomedical Research and Clinical Medicine Programs. Secondly, we hope to stimulate an exchange of information and ideas among scientists working in the different areas of the program. To facilitate the exchange process, we have identified for each publication, by asterisk, the author participating in the program. Participating authors are listed on page 117 and an index of their papers is included.

We would like to thank all the participating authors for their publication lists. We would also like to thank Janice Susan Wallace for her editorial and technical expertise in the compilation of this bibliography.

Janis Stoklosa, Ph.D.  
Biomedical Research Program Manager

# CLINICAL MEDICINE

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**BROADWELL, D.K.; LOGAN\*, J.S.**

A TOTAL PARENTERAL NUTRITION SYSTEM FOR EMERGENCY USE ABOARD THE SPACE STATION  
HEALTH MAINTENANCE FACILITY (ABSTRACT).

*AVIATION, SPACE, AND ENVIRONMENTAL MEDICINE*

57(5): 503, 1986. (GWU 8022)

**BUCHANAN\*, P.**

THE CLOSING GAP BETWEEN OCCUPATIONAL MEDICINE AND FLIGHT MEDICINE IN THE SPACE  
STATION ERA.

*SANGYO IKA DAIGAKU ZASSHI*

7(SUPPL.): 237-244, 1985. (GWU 7704)

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STATISTICAL TREATMENT OF CLINICAL DATA.

IN: *TRAUMA: EMERGENCY SURGERY AND CRITICAL CARE* (SIEGEL, J.H., ED.). NEW YORK:  
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**DAVIS, J.E.; VROMAN, N.B.; TANKERSLEY, C.G.; FORTNEY\*, S.M.**

FOREARM VENOCONSTRICITOR RESPONSES FOLLOWING BEDREST (ABSTRACT).

*AVIATION, SPACE, AND ENVIRONMENTAL MEDICINE*

56(5): 489, 1985. (GWU 7939)

**FORTNEY\*, S.M.; DAVIS, J.E.; CARPENTER, A.J.; ROCK, J.A.**

THE LACK OF AN AFFECT OF ELEVATED ESTROGENS ON EXERCISE THERMOREGULATION  
(ABSTRACT).

*FEDERATION PROCEEDINGS*

45(4): 529, 1986. (GWU 8069)

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PLASMA VOLUME MAINTENANCE DURING BEDREST IN WOMEN RECEIVING PREMARIN  
(ABSTRACT).

*AVIATION, SPACE, AND ENVIRONMENTAL MEDICINE*

56(5): 489, 1985. (GWU 7938)

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DEVELOPMENT OF A SAMPLING STRIP FOR AIRBORNE PARTICULATES IN ORBITER AIR  
(ABSTRACT).

*AVIATION, SPACE, AND ENVIRONMENTAL MEDICINE*

56(5): 493, 1985. (GWU 7950)

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*AVIATION, SPACE, AND ENVIRONMENTAL MEDICINE*

57(5): 503, 1986. (GWU 8019)

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SOLID SORBENT AIR SAMPLER - PATENT (ABSTRACT). US-PATENT-4,584, 887

7 P., APRIL 29, 1986. (GWU 7948)

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*AVIATION, SPACE, AND ENVIRONMENTAL MEDICINE*  
57(5): 503, 1986. (GWU 8020)

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**LOYD\*, O.H.; COX, W.; DOERR, D.; MELKER, R.; CAVALLARO, D.**  
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*AVIATION, SPACE, AND ENVIRONMENTAL MEDICINE*  
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THERMOREGULATORY RESPONSE TO EXERCISE AT DIFFERENT PHASES OF THE MENSTRUAL CYCLE (ABSTRACT).  
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*JOURNAL OF APPLIED PHYSIOLOGY*  
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*AVIATION, SPACE, AND ENVIRONMENTAL MEDICINE*  
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**AMERICAN JOURNAL OF PHYSIOLOGY**  
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**250(5, PART 2): R932-R945, 1986. (GWU 7733)**

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**PHYSIOLOGIST**  
**28(4): 345, 1985. (GWU 7085)**

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**METABOLISM**  
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**BOUTELLIER, U.; ARIELI, R.; FARHI\*, L.E.**  
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*RESPIRATORY PHYSIOLOGY*  
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*JOURNAL OF APPLIED PHYSIOLOGY*  
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18(4): 396-401, 1986. (GWU 7803)

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*AVIATION, SPACE, AND ENVIRONMENTAL MEDICINE*  
57(5): 506, 1986. (GWU 8036)

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*COMPUTERS IN CARDIOLOGY*  
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INITIAL EXPERIENCE WITH A NEW PLETHYSMOGRAPH FOR ZERO-G USE.  
*PHYSIOLOGIST*  
28(6, SUPPL.): S145-S146, 1985. (GWU 6878)

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*PHYSIOLOGIST*

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CENTRAL VENOUS PRESSURE DURING A SIMULATED SHUTTLE LAUNCH PROFILE (ABSTRACT).

IN: *PROGRAM AND ABSTRACTS, SECOND ANNUAL MEETING OF THE AMERICAN SOCIETY FOR  
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IN: *PROGRAM AND ABSTRACTS, SECOND ANNUAL MEETING OF THE AMERICAN SOCIETY FOR  
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*AVIATION, SPACE, AND ENVIRONMENTAL MEDICINE*

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56(10): 985-990, 1985. (GWU 6731)

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*JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY*

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*AVIATION, SPACE, AND ENVIRONMENTAL MEDICINE*

57(5): 494, 1986. (GWU 8018)

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*AVIATION, SPACE, AND ENVIRONMENTAL MEDICINE*

56(5): 481, 1985. (GWU 7930)

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*PHYSIOLOGIST*  
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*AVIATION, SPACE, AND ENVIRONMENTAL MEDICINE*  
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*AVIATION, SPACE, AND ENVIRONMENTAL MEDICINE*  
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*AVIATION, SPACE, AND ENVIRONMENTAL MEDICINE*  
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*AVIATION, SPACE, AND ENVIRONMENTAL MEDICINE*  
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FLUID AND ELECTROLYTE RESPONSE OF A PRIMATE MODEL TO LOWER BODY POSITIVE PRESSURE INDUCED CENTRAL VOLUME EXPANSION (ABSTRACT).  
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*AVIATION, SPACE, AND ENVIRONMENTAL MEDICINE*

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ROLE OF CARDIAC VOLUME RECEPTORS IN THE CONTROL OF ADH RELEASE DURING ACUTE SIMULATED WEIGHTLESSNESS IN MAN.

*PHYSIOLOGIST*

27(6, SUPPL.): S51-S52, 1984. (GWU 6224)

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BEDREST-INDUCED PEAK  $\text{VO}_2$  REDUCTION ASSOCIATED WITH AGE, GENDER, AND AEROBIC CAPACITY.

*AVIATION, SPACE, AND ENVIRONMENTAL MEDICINE*

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*MEDICINE AND SCIENCE IN SPORTS AND EXERCISE*

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EFFECT OF SIMULATED WEIGHTLESSNESS ON EXERCISE-INDUCED ANAEROBIC THRESHOLD.

*AVIATION, SPACE, AND ENVIRONMENTAL MEDICINE*

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EXERCISE CAPACITY FOLLOWING REPEAT SIMULATED SHUTTLE FLIGHT (ABSTRACT).

*AVIATION, SPACE, AND ENVIRONMENTAL MEDICINE*

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RESPONSE TO MUSCULAR EXERCISE FOLLOWING REPEATED SIMULATED WEIGHTLESSNESS.

*AVIATION, SPACE, AND ENVIRONMENTAL MEDICINE*

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## Report Documentation Page

1. Report No. NASA CR-4184	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle <b>Space Medicine Research Publications: 1984-1986</b>		5. Report Date <b>October 1988</b>	6. Performing Organization Code
7. Author(s) <b>Janice S. Wallace</b>		8. Performing Organization Report No.	
9. Performing Organization Name and Address <b>Science Communication Studies, DCE The George Washington University Washington, D.C. 20006</b>		10. Work Unit No.	
12. Sponsoring Agency Name and Address <b>Life Sciences Division Office of Space Science and Applications NASA Headquarters, Washington, D.C. 20546</b>		11. Contract or Grant No. <b>NASW-4324</b>	
15. Supplementary Notes <b>For previous editions see: NASA CR-3739; NASA CR-3587; NASA CR-3860</b>		13. Type of Report and Period Covered <b>Contractor Report</b>	
16. Abstract <p>List of publications of investigators supported by the Biomedical Research and Clinical Medicine Programs of the Space Medicine and Biology Branch, Life Science Division, Office of Space SCience and Applications. Includes publications entered into the Life Sciences Bibliographic Database by The George Washington University as of December 31, 1986.</p> <p>Publications are organized into the following subject areas: Clinical Medicine, Space Human Factors, Musculoskeletal, Radiation and Environmental Health , Regulatory Physiology, Neuroscience, Cardiopulmonary</p>		14. Sponsoring Agency Code <b>EBM</b>	
17. Key Words (Suggested by Author(s)) <b>Cardiovascular; Human Factors; Musculoskeletal; Radiation; Environmental Factors; Regulatory Physiology; Hematology; Immunology; Behavior; Fluid and Electrolyte; Neuroscience</b>		18. Distribution Statement <b>Unclassified - Unlimited</b>	
19. Security Classif. (of this report) <b>Unclassified</b>		20. Security Classif. (of this page) <b>Unclassified</b>	21. No. of pages <b>140</b>
			22. Price <b>A07</b>

NASA FORM 1626 OCT 86 Available from the National Technical Information Service,  
Springfield, VA 22161