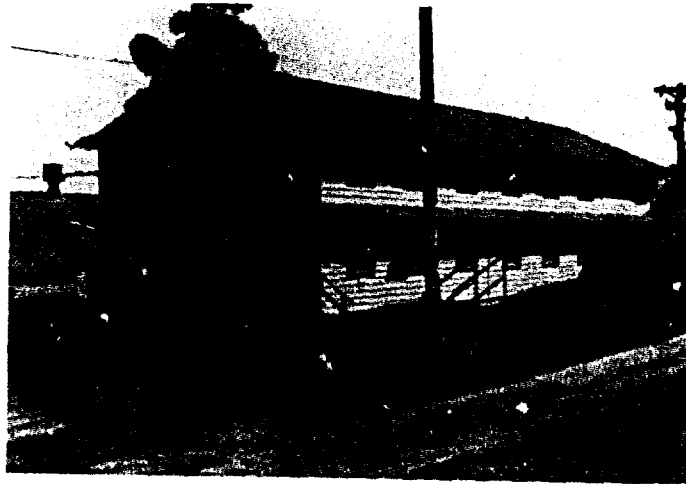


COMMAND ANNUAL REPORT

Calendar Year 1987 and FY-88

AD-A211 001



Naval Health Research Center  
P.O. Box 85122  
San Diego, California 92138-9174

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# Calendar Year 1987 and FY-88

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**ACKNOWLEDGEMENTS**

The information contained in this report is obtained from staff members on a quarterly basis.

Brenda Crooks, OCO Secretary, compiled, designed, and provided editorial assistance for this report.

"Special thanks" to: Command Photographers HM3 Mark Greenwood, HM3 W. J. Bethea, and Brenda Crooks for most of the photos; to other command staff both military and civilian who contributed photos.

Lucile Cheng for preparation of the cover, and Ms. Anne Hoiberg for assistance in proofreading.

## From the Commanding Officer

In July 87 I had the honor and privilege of relieving CDR Larry Dean as Commanding Officer of the Naval Health Research Center, and the extreme good fortune to be assured of CDR Dean's continued advise and wise counsel by his assumption of the position of Executive Officer.

With CDR Dean in this role, along with Dr. Eric Gunderson, Chief Scientist, and LCDR Bob Donohue as Administrative Officer, the prospects for a productive and operationally oriented research program were guaranteed. Every member of the staff, civilian, officer, and enlisted, were motivated and eager to press on to meet the ever-changing requirements of the men and women fulfilling their vital roles in the ever-expanding mission of the Fleet and Fleet Marine Force. It remains our collective responsibility and my personal commitment to seek out ways to support the operational needs of the Navy and Marine Corps.

Since July 1987 through September 1988, numerous opportunities have arisen to reward our personnel for their continued outstanding performance: to NHRC corpsmen for their afterhour, in the field, and at-sea research data collection; to LT Chesson for his outstanding professionalism in training the officers and CPO's of the USS CAYUGA in the Navy's PRT Program; a Military Cash Award to LT Kobus for the beneficial effect on personnel with his work studying Low Level White Lighting aboard naval vessels, up to making the NHRC 16 July 87 Change of Command Ceremony and Reception a huge success. In addition, this command had the distinct pleasure of commissioning HM2 Lamont Louis an Ensign in the Medical Service Corps. The awards are outlined beginning on page 116. The 22 April 88 visit of the Surgeon General of the Navy, VADM Zimble, applauded the staff for being "involved in many exciting projects in support of our Navy/Marine Corps team. They are to be commended for their scientific and clinical acumen."

Major thrusts in research projects include new starts in "Cold Weather Medicine/Physiology" and "Enhanced Human Performance in Sustained Operations." In addition, the World-wide Environmental Medicine Surveillance Program" was formulated and set into motion to integrate NHRC's 22-year old data files of active duty Navy and Marine Corps personnel service records and hospitalizations, with the data collected from NOHIMS (Navy Occupational Health Information Management Systems); DNBI (Disease/Non-battle Injury); SNAP (Shipboard: Nontactical ADP Program, (SAMS) Automated Medical System, and the demographic data from NHRC's repository of the Navy's HIV III Testing and Surveillance Program.

To perform cognitive and physical performance measures for the Cold Weather Medicine program, a mobile field laboratory was transported from Naval Medical



Aerospace Research Lab at Pensacola, Florida to Marine Corps Mountain Warfare Training Center in Bridgeport, California (see pg 68). From 1-5 August 88, principal investigators participated in meetings in Oslo, Norway, to establish the U.S./Norway cooperative agreement for joint studies of human performance during cold weather operations.

In support of the Enhanced Human Performance in Sustained Operations program, during the months of September and October 1988, NHRC staff went to the Persian Gulf and collected data for the NSAP project onboard ships.

**Retirements.** Three retirements took place: On 8 May 87, Captain Michael F. Fornes, MC, USN, after 27 years, retired from the U.S. Navy and received the Meritorious Service Medal. Effective 1 March 88, LCDR Donohue, Administrative Officer retired, and 1 May, HMI Gary Anderson (see page 143).

**Telephone System.** On 7 December 87, the command's phone numbers were changed with the implementation of the Consolidated Area Telephone System (CATS). New phone numbers are outlined on page 15.

**Work Schedule Hours.** On 20 September 88, this command began the Alternate Work Schedule.

**Safety.** Since 1981, NHRC has not incurred any work-related injuries or accidents that have resulted in employee work time lost.

**Postdoctoral Research Associateship, National Research Council.**

Two students were awarded Postdoctoral Research Associateships from the National Research Council and assigned to the Health Psychology Department. Dr. Brock Kilbourne, from the University of Maryland campus in Heidelberg, Germany, reported onboard 15 June 87, and Dr. Barbara Du Bois, from the University of Hawaii reported onboard 9 November 87.

**American Society for Engineering Education (ASEE) Summer Program**

This command initiated in 1986 and continues to promote the ASEE summer research program which provides several college and/or university faculty members the opportunity to establish continuing research relations or to expand their professional contacts with the R&D community (see page 21).

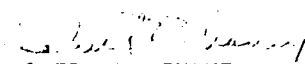
**Organization.** To comply with instructions from parent command, Naval Medical Research and Development Command, a planned re-organization of NHRC was completed effective 30 September 88.

**Scientific Activities** are reflected in the Chief Scientist's report, followed by departmental reviews with abstracts of our 1987 and FY-88 reports begin on page 24; presentations/meetings attended and briefings begin on page 79; lectures featuring presentations by distinguished visiting scientists are summarized on page 99.

**Command History.** The biography and photograph of NHRC are provided on page 14.

This annual report for 1987 and FY-88 not only documents NHRC's achievements but portends busy and exciting events and paves the way to a more productive future.

The Commanding Officer assumed command on 16 July 1987.

  
ROBERT D. CHANEY  
Captain, Medical Corps, U.S. Navy  
Commanding Officer

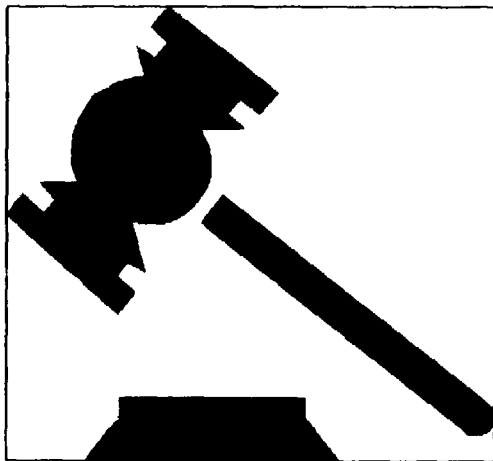


1,847th  
Recruit Division Review  
1 July 88

Naval Training Center  
San Diego, California

Reviewing Officer:  
Captain Chaney

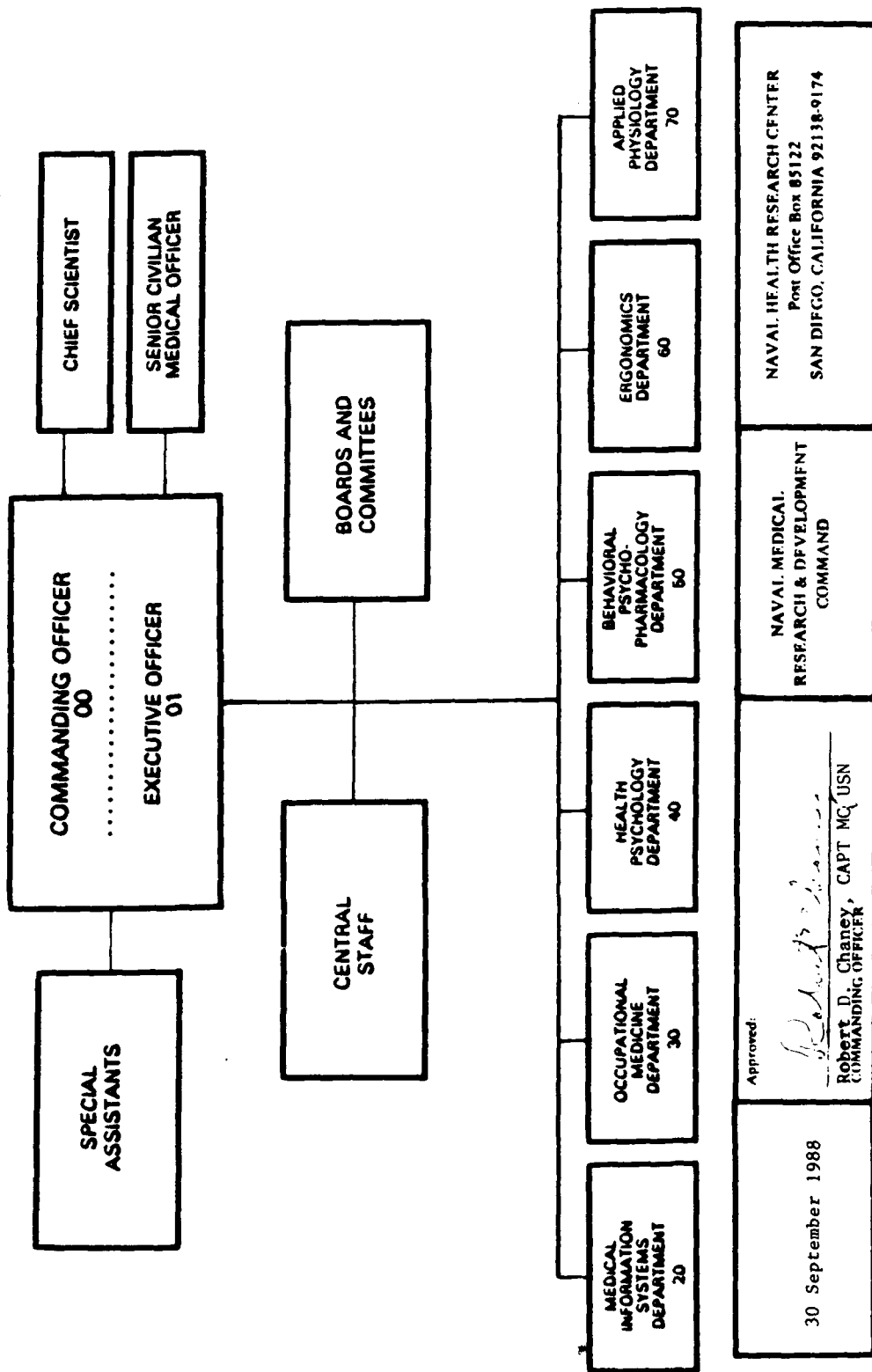




# Organization



# Organization Chart



# Organization Manual as of 30 September 1988

## ORGANIZATION AND MISSION

### MISSION AND FUNCTIONS

The mission of the Naval Health Research Center (NHRC), as assigned by the Secretary of the Navy, and the functions to be performed to accomplish the mission, as assigned by the Commander, Naval Medical Command, (NAVMEDCOMINST 5450.10) are as follows:

**MISSION.** To support fleet operational readiness through research, development, test, and evaluation on the biomedical and psychological aspects of Navy and Marine Corps personnel health and performance, and to perform such other functions or tasks as may be directed by higher authority.

**FUNCTIONS.** As directed by the Commander, Naval Medical Command, and exercised through the Commanding Officer, Naval Medical Research and Development Command, Bethesda, Maryland:

a. Conduct occupational health and safety studies in the Naval service to: identify environmental hazards in the workplace and aboard ship; assess the impact of potentially harmful agents or conditions on health and performance; determine causal factors in illness and accidents; and to develop cost-effective intervention strategies.

b. Maintain data files of medical and service history information for all naval personnel: to serve as the basis for longitudinal health studies on morbidity, disability, and mortality in relation to demographic, occupational, environmental, psychological, and service history variables; to identify health and safety risks to naval personnel; and to assess the impact of chronic disease on performance and retention.

c. Conduct studies on the unique psychological, physiological, and environmental stresses which place demands on performance and biochemical homeostasis of Navy and Marine Corps personnel in operational environments; identify the physical, mental and emotional requirements for maintenance and enhancement of performance during sustained military operations; and develop supportive programs for augmentation, restoration, and maintenance of physical fitness to enhance military job performance.

d. Conduct research to quantify the physiological and performance effects of occupational and environmental conditions, pharmacological agents, and certain clinical entities which may enhance or impair health and performance in operational settings.

e. Conduct studies of naval health care facilities as complex organizations which must coordinate activities of professional and support personnel to provide health care and assess influences on the cost, quality, and effectiveness of health care provision in shipboard and shore facilities; develop information systems relating to Navy medical health care provision for management, clinical, and research purposes.

r. Develop biomedical engineering systems to: improve performance and physical fitness among naval service personnel; augment the quality of health care onboard ship and within naval shore facilities; and enhance casualty care and medical records management procedures in combat operations.

g. Provide effective liaison between Navy medical research and development efforts and WESTPAC Fleet Marine activities.

h. Provide or undertake such other appropriate functions as may be authorized or directed by higher authority.

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**EXTERNAL ORGANIZATION AND COMMAND RELATIONSHIPS**

The Center is a tenant command of Naval Ocean Systems Center.

STATUS AND COMMAND RELATIONSHIPS

The Center is a shore (field) activity in an active operating status under a Commanding Officer, and under the command and support of the Commander, Naval Medical Command, exercised through the Commanding Officer, Naval Medical Research and Development Command. The Center is under the area coordination authority of the Commander Naval Base, San Diego, California.

LOGISTIC SUPPORT

1. The Naval Ocean Systems Center (NOSC) provides direct logistic support to NHRC for functions of supply procurement, public works coordination, plant security and fire protection, civilian food service, printing services, safety program, and routine preventive maintenance for plant facilities.

2. Naval Hospital, San Diego, and Naval Medical Clinics, San Diego provide medical treatment.

3. Naval Regional Dental Clinic, San Diego provides dental treatment.

4. Naval Training Center provides a facility for conducting research in applied physiology, as well as special services and military berthing.

5. Naval Submarine Base provides enlisted berthing and military food service.

6. Naval Supply Center provides civilian payroll services.

7. Civilian Personnel Office, Naval Medical Command, Southwest Region, provides and administers civilian personnel functions and EEO program.

8. Personnel Support Detachment, Point Loma, provides disbursing, travel, and military personnel procedures.

9. Public Works Center provides maintenance and public works functions, transportation, and building custodial services on a reimbursable basis.

10. Naval Legal Service Office, San Diego, provides command legal assistance.

11. Naval School of Health Sciences, Biomedical Communications Center, NHRC Branch, provides graphic support.

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## OFFICE OF THE COMMANDING OFFICER

The Office of the Commanding Officer (OCO) consists of the Commanding Officer, Executive Officer, Chief Scientist, and the Senior Civilian Medical Officer.

### COMMANDING OFFICER (00)

The Commanding Officer (CO) is a Medical Department officer specifically assigned by the Commander, Naval Military Personnel Command. The CO is responsible for policy, direction and coordination of all functions of the Center. Military command is executed from the CO to subordinates through established channels of seniority, procedure, and delegation of authority. The CO assumes such additional duty as assigned by the Commander, Naval Military Personnel Command, and such temporary and collateral duties as may be assigned by higher authority.

### EXECUTIVE OFFICER (01)

The Executive Officer (XO) serves as the direct representative of the CO. As such, all orders issued by him shall be regarded as proceeding from the CO and shall govern all persons within the command. He shall assist the CO in the discharge of his responsibility for the overall supervision of the quality and effectiveness of the command's research, in the formulation of professional policies, standards and directives, and in military and civilian personnel management, be responsible to the CO for all administrative matters including the coordination of internal administration of the Center as well as management improvement functions. He acts independently upon matters which do not require the personal attention of the CO and keeps the CO apprised of these actions. The XO shall be an officer of the Medical Service Corps.

The XO shall:

- a. Establish methods for improving operating procedures, solving administrative problems, and correcting unsatisfactory conditions of an administrative nature.
- b. Supervise and be responsible for the coordination and efficient operation of the Administrative Services; Fiscal/Supply Services, and Civilian Personnel Services.
- c. Maintain current information regarding laws, regulations, policies, and instructions pertaining to naval administration in general and to management of this Center in particular.
- d. Insure compliance with the provisions of U.S. Navy Instructions pertaining to the security of classified matter. Insure that all infractions of law or U.S. Navy Regulations and violations of discipline are promptly reported to the CO.
- e. The XO coordinates the Center's interactions with other Naval Medical Command and Naval Medical Research and Development Command programs. Maintains liaison with the Naval Hospital, Naval Medical Clinics, Personnel Support Activity, Naval Training Center, and other commands as required.
- f. Coordinate the administrative activities of the Office of the Commanding Officer.

### CHIEF SCIENTIST (001)

The Chief Scientist (CS) is appointed by the CO from among permanent members of the Scientific Planning and Review Council (SPRC). Usual length of appointment will be three years.

The CS shall:

- a. Serve as principal scientific advisor to the CO and when appropriate, represent the command in scientific matters and higher authority, or other military activities and civilian agencies.
- b. Chair the Scientific Planning and Review Council (SPRC) and ensure that the Council carries out its purpose and objectives.
- c. Under the guidance of the CO coordinate scientific research activity of the Center and advise researchers as to naval need for and timeliness of Center's research programs and requisite support available.
- d. Direct long-term research planning, such as preparation of the annual Five Year Plan, review ongoing scientific programs, and oversee the Center's compliance with relevant instructions for the use of Human Subjects.
- e. Supervise and be responsible for the coordination and efficient operation of the library Services.

SENIOR CIVILIAN MEDICAL OFFICER (002)

The Senior Civilian Medical Officer (SCMO) is appointed by the CO and will serve as the official representative of the CO in matters pertaining to medical risks involved in research.

The SCMO shall:

- a. Advise the Commanding Officer and Chief Scientist on research involving medical principles and practices and provide technical medical assistance to Department Heads and principal investigators.
- b. Maintain liaison with Navy and Marine Corps commands to identify medical problems generated by operational environments. Maintain liaison with other Navy laboratories and other military services to identify medical research areas of mutual interest.
- c. Coordinate and/or take part in major interdepartment programs involving cold weather, sustained operations research, and other priority programs.
- d. Supervise the efficient operation of the Center's Research Information Systems Services.
- e. Represent the Center in the Naval Science Advisory Program.

MEDICAL INFORMATION SYSTEMS DEPARTMENT (CODE 20)

This Department plans and conducts research programs for the development of medical information systems for the Navy industrial facilities, Navy ships, and Marine Corps field and combat environments in order to provide comprehensive record keeping and reporting capabilities to permit investigation of environmental, occupational, and individual factors which affect the health and safety of Navy and Marine Corps personnel and civilian employees.

OCCUPATIONAL MEDICINE DEPARTMENT (CODE 30)

This Department conducts occupational health and safety research in the naval service to identify environmental hazards in the work place and aboard ship, to assess the impact of potentially harmful agents or conditions on health and

performance, to determine causal factors in illness and accident risks, and to develop cost-effective intervention strategies to prevent or control such health risks. The Department studies morbidity, disability, and mortality in relation to demographic, occupational, environmental, psychological, and service history variables and conducts long-term prospective studies of health risks in career personnel, including the impact of chronic disease on performance and retention. The Department determines incidence, course, and outcome of psychiatric and substance abuse conditions and devises improved diagnostic and prognostic guidelines for effective patient management. Other areas include development of a communication network for management and research purposes and epidemiological studies to determine the etiology, course, and outcome of occupationally related diseases and injuries in naval service. The Department designs and maintains files of medical and service history information for all naval personnel as a basis for epidemiological studies of morbidity and mortality in naval populations.

#### HEALTH PSYCHOLOGY DEPARTMENT (CODE 40)

This Department is concerned with the analysis of needs for and utilization of inpatient and outpatient health care facilities as complex organizations which must coordinate activities of professional and support personnel to provide health care and assess influences on the cost, quality, and effectiveness of health care provision in shipboard and shore facilities. Additional areas of concern are the assessment and/or development and design of information systems about health care provision within the Navy for management, clinical, and research purposes.

#### BEHAVIORAL PSYCHOPHARMACOLOGY DEPARTMENT (CODE 50)

This Department conducts research on the physiological, behavioral, and performance aspects of health and physical and emotional fitness among Navy and Marine Corps service personnel. The Department's research will investigate both exogenous and endogenous factors which affect human performance, health, and military effectiveness. The goal of this research is to quantify the physiological and performance effects of occupational/environmental conditions, pharmacological agents and certain clinical entities which may impair health and performance in operational settings. Areas of investigation include, but are not limited to, the behavioral effects of environmental toxins; the psychophysiological aspects of atypical work environments, the effects of pharmacological agents, both therapeutic and non-medicinal drugs, on performance, and the effects of disorders of arousal and sleep on personnel effectiveness.

#### ERGONOMICS DEPARTMENT (CODE 60)

This Department investigates the unique demands placed upon Navy and Marine Corps personnel by their operational environments. Conducts research on psychological, physiological, and environmental stresses as they relate to human performance and impact on biochemical homeostasis. Essential to this work is the identification of the physical, mental, and emotional requirements for successful performance during sustained military operations. Included in this research effort is the development of supportive programs for augmentation, restoration, and

maintenance of physical fitness and health. Special emphasis is placed upon the implications of sex differences and aging for military job performance.

APPLIED PHYSIOLOGY DEPARTMENT (CODE 70)

This Department conducts specific physiological research in areas where job performance and health of Navy and Marine Corps personnel must be optimized. This Department will investigate the role of physical fitness in personnel selection; develop standards for evaluating physical condition of military personnel and programs to aid in the restoration of physical capacity; and conduct research on the effects of physical conditioning on readiness, prevention and treatment of obesity; and nutritional requirements of special military units.

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CENTRAL STAFF

ADMINISTRATIVE SERVICES (01A)

Administrative Services is supervised by the Executive Officer and is responsible for support and management responsibilities within the command. Provides overall administrative and support services to include but not limited to security, mail and message control transportation service, travel order preparation, reference, and graphic arts service.

CIVILIAN PERSONNEL SERVICES (01B)

The Civilian Personnel Service is responsible for the management of the civilian personnel program within the command. Provides guidance to the CO and XO on all phases of civilian personnel within the guidelines of the Federal Personnel Manual and higher echelon instructions. Counsels management on the proper procedures for recruitment, employee relations, training, and other programs as they apply to civilian personnel. Provides all liaison assistance between the servicing personnel office and the command.

FISCAL/SUPPLY SERVICES (01C)

The Fiscal/Supply Service advises and assists the Center in the administration and coordination of the overall financial management program, including budget preparation and execution, and the total accounting system. Provides financial staff services and advice by means of managerial cost reports and analyses to aid in decision making and effective utilization of financial resources. Responsible for facilities management, the accountability for plant and minor property and supply services. Provides staff supply services and advice to aid in the effective utilization of supply resources.

RESEARCH INFORMATION SYSTEM SERVICES (CODE 002A)

The Research Information System Services is supervised by the SCMO and is responsible for management of information systems support services within the command. Provides hardware and software capability in support of the research departments of this command. Develops and automates methods of statistical analysis related to scientific research projects, develops research support software, and provides consultation to investigators.

LIBRARY SERVICES (CODE 001A)

The Wilkins Biomedical Library serves as a major information resource for the medical research personnel at NHRC. Services include on-line searching of Medline, Defense Technical Information Center (DTIC), PsycInfo, National Technical Information Service (NTIS), and other major databases, receipt of 250 current journal subscriptions, and Interlibrary Loan services for materials not owned by NHRC.

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SPECIAL ASSISTANTS

Internal Review Coordinator (00A)

The Internal Review Coordinator shall provide the CO an in-house means to evaluate the efficiency and effectiveness of command operations and functions.

Senior Chief Petty Officer of the Command (00B)

The Senior Chief Petty Officer of the Command (SCPOC) shall assist and advise the CO on matters pertaining to the enlisted staff and perform other duties as assigned.

Safety Officer (00C)

The Safety Officer shall advise and assist the CO in the implementation and management of Command Safety Programs. Conducts inspections for hazardous working conditions or materials and advises the CO on command safety matters.

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STANDING BOARDS AND COMMITTEES

Functional statements for Boards and Committees are contained in directives which establish these bodies. All proceedings shall be made a matter of official record and submitted to the Commanding Officer.

a. Position Management Board (PMB)

To guide and assist management in the establishment of sound organization, design, staffing requirements, and position structure necessary to carry out assigned tasks within constraints of costs and positive personnel practices.

b. Incentive Awards Boards (IAB)

To recommend policy and procedures for command Incentive Awards Program designed to improve Government operations and to motive employees to increase productivity and creativity by rewarding those whose job performance and adopted ideas benefit the Government substantially above normal job requirements and performance standards.

c. Committee for the Protection of Human Subjects (CPHS)

Reviews all research proposals submitted by the command involving human subjects to determine that the risk to the subject is so out-weighed by the sum of the benefits to the subject and the importance of the knowledge to be gained as to warrant a decision to allow the subject to accept these risks. Ensures that the rights and welfare of any such subject will be adequately protected.



d. Scientific Planning and Review Council (SPRC)

Advises and recommends to the CO on all scientific aspects including old, new, and projected scientific programs as well as advising on all factors affecting the accomplishment of scientific goals.

e. Safety Policy Committee (SPC)

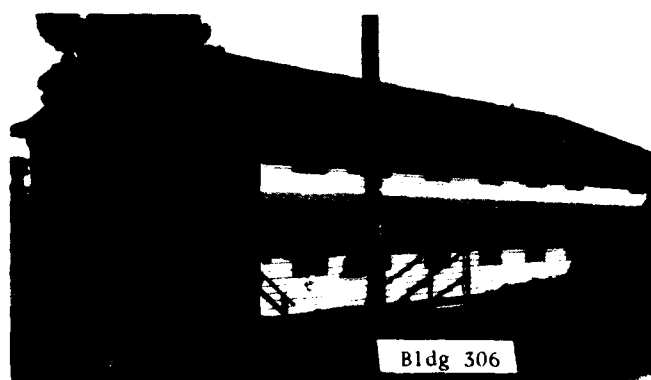
Formulates proposed safety and occupational health and safety program objectives. Advises the CO on prioritization and correction of safety and occupational health deficiencies.

f. Information Systems Executive Board (ISEB)

Reviews and makes recommendations concerning NHRC Information Systems (IS)/ADP hardware and software. Evaluates the IS/ADP needs of the Center to ensure efficiency of operations and prevent duplications. This Board is assisted by the ISEB Working Group that reviews, comments, and makes recommendations on resource requests, requirements, proposals, and all NHRC long range IS planning, and assures compliance with guidance provided by higher authority.

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## Biography and Photograph of NHRC



The Naval Health Research Center was established in 1959 as the U.S. Navy Medical Neuropsychiatric Research Unit and its mission as defined by the Secretary of the Navy: "To conduct research in the area of neuropsychiatry as it applies to the naval service."

Designated as the Navy's primary research capability in the areas of psychiatry and neurology, with the associated disciplines of clinical psychology, psychobiology, epidemiology, and cultural anthropology, the Unit was placed in San Diego where it would be close to a variety of possible research populations--recruits and patients, sailors and marines, surface, subsurface, air, fleet, and shore--and close to the principal research arms of the then Bureau of Naval Personnel and the Naval Electronics Systems Command.

The Unit began operations in a World War II Army barracks, Building 306 within the enclosure of the Navy Electronics Laboratory Center for command, control, and communication support on Point Loma.

The first Officer in Charge assumed command on 1 August 1959. The Scientific Director also arrived in August 1959. Scientific and technical staff was assembled within the constraints of space and budget when refurbishing of Bldg 306 was accomplished. The first formal research work-unit approval was received from Bureau of Medicine and Surgery on 25 February 1960 and the first of the Unit's longitudinal studies began.

In the spring of 1960 the Naval Hospital agreed to provide space in Building 36 for the Unit's proposed research efforts in psychophysiology and neurophysiology, currently referred to as the "Sleep Lab." Barracks Building 309 was obtained in 1961, and eventually four other barracks buildings were obtained, and space at Naval Training Center.

Effective 1 September 1974, by authority of the Chief of Naval Operations, the U.S. Navy Medical Neuropsychiatric Research Unit was redesignated the Naval Health Research Center, with a mission "to study medical and psychological aspects of health

and performance among naval service personnel." The Center for Prisoners of War Studies, which had been established in 1973, was disestablished in 1978. Over the years NHRC has expanded its staff to include the biological sciences of medicine, addressing even more effectively the medical and psychological aspects of health and performance in Navy and Marine Corps populations. The Center's infectious disease program was terminated in 1983 due to transfer of this responsibility to the Army.

Over the past 28 years, 1191 technical reports have been produced. The Center makes a conscious effort to communicate its findings not only to a variety of naval commands but to the general scientific and medical communities through the command's mailing lists.

NHRC, located on Point Loma in San Diego, occupies six of the Naval Ocean Systems Center's "barracks" buildings as well as spaces in the Naval Hospital and Building 272 at Naval Training Center.

Department locations are as follows. Phone numbers are provided for assistance in contacting departments.

Bldg 306 (Top deck)	Office of the Commanding Officer and Administrative Services Department (Code 80) AV 553-8400 (619) 553-8400
(Lower deck)	Walter L. Wilkins Biomedical Library AV 553-8425/6 (619) 553-8425/5
Bldg 309	Research Support Department, Code 90 AV 553-8437 (619) 553-8437
Bldg 315	Performance Enhancement Lab, Code 60 AV 553-8443/46 (619) 553-8443/46
Bldg 331	Medical Information Systems Department, Code 20 AV 553-8401 (619) 553-8401
Bldg 332 (Top deck)	Occupational Medicine Department, Code 30 AV 553-8389 (619) 553-8389
(Lower deck)	Ergonomics Department, Code 60 AV 553-8375 (619) 553-8375
Bldg 346 (Top deck)	Health Psychology Department, Code 40 AV 553-8470 (619) 553-8470
(Lower deck)	Applied Physiology Branch, Code 70 AV 553-8453 (619) 553-8453/50
Naval Hospital Bldg 6-4	Behavioral Psychopharmacology Dept, Code 50 AV 522-6114 (619) 532-6114
Naval Training Center Bldg 272	Applied Physiology Department, Code 70 AV 957-4379 (619) 225-4308/4379

~ ~ ~ ~ ~

## Military Personnel

from: (January - December 1987)

(January-September 1988)

MEDICAL CORPS

Captains:  
     Anesthesiologist                   1  
 Commanders:  
     Medical Researcher                2

MEDICAL SERVICE CORPS

Commanders:  
     Research Psychologist            1  
 Lieutenant Commanders:  
     Physiologist                      1  
     Environmental Health Officer    1  
     Admin Medical Service Corps    1  
     Aerospace Physiologist         1  
 Lieutenants:  
     Research Psychologist           4  
     Physiologist                      1  
                     Officers (total)       13

Enlisted

E-8	8425/0000	1	
E-6	8506/0000	2	
E-6	8404/0000	1	
E-5	8454/0000	1	
E-5	8404/0000	5	
E-4	8454/0000	2	
E-4	8404/0000	<u>1</u>	
Enlisted (total)		15	

TOTAL           28

MEDICAL CORPS

Captains:  
     Anesthesiologist                   1  
 Commanders:  
     Medical Researcher                2  
 Lieutenant Commanders:  
     Medical Researcher                1

MEDICAL SERVICE CORPS

Commanders:  
     Research Psychologist            1  
 Lieutenant Commanders:  
     Physiologist                      1  
     Environmental Health Officer    1  
     Aerospace Physiologist         2  
 Lieutenants:  
     Research Psychologist           4  
     Physiologist                      1  
                     Officers (total)       14

Enlisted

E-7	9588/0000	1	
E-6	8506/0000	1	
E-6	8404/0000	1	
E-5	8454/0000	2	
E-5	8404/0000	2	
E-5	0000/0000	4	
E-4	8454/0000	1	
E-4	8404/0000	<u>1</u>	
Enlisted (total)		13	

TOTAL           27

There are several officers with additional duty to NHRC who serve on the Committee for the Protection of Human Subjects. They include one each of:

Lieutenant Commander, Chaplain Corps, USN

Lieutenant, Judge Advocate General Corps, USNR

## Civilian Personnel

From: January-December 1987

<u>Grade</u>	<u>Number</u>
SES	1
GS-14	2
GS-13	9
GS-12	8
GS-11	11
GS-9	12
GS-7	6
GS-6	8
GS-5	4
GS-4	1
WG-6	<u>1</u>
Total	63

January-September 1988

<u>Grade</u>	<u>Number</u>
SES	1
GS-14	2
GS-13	9
GS-12	11
GS-11	9
GS-9	11
GS-7	6
GS-6	5
GS-5	3
GS-4	1
WG-6	<u>1</u>
Total	58

National Science Foundation Fellows - 2

ASEE Summer:

Fellows	Jun-Aug 1987	- 4
Fellows & Student	Jun-Aug 1988	- 10

VA Temporary Collaborators - 3

## Hail/Farewell (1987 & FY-88)

### Office of the Commanding Officer

8 May 87, Larry M. Dean, CDR MSC USN Commanding Officer/Executive Officer	8 May 87, Michael F. Fornes, CAPT MC USN, Commanding Officer, Retired
16 Jul 87, Robert D. Chaney, CAPT MC USN Commanding Officer	16 Jul 87, Larry M. Dean, CDR MSC USN Commanding Officer, to XO Billet
16 Jul 87, Larry M. Dean, CDR MSC USN Executive Officer	29 Feb 88, A. Robert Donohue, LCDR MSC USN, Administrative Officer, Retired
20 Jul 87, Michael W. Congleton, M.D. Senior Civilian Medical Officer	10 Jun 88 Michael W. Congleton, M.D. Snr Civ Med Ofcer, Resigned
15 Apr 88, Catharina C. Scott Command Chief	16 Aug 88, Larry G. Jackson, HMCS Command Senior Chief, Transferred
19 Aug 88, Craig Bischoff, LCDR MC USN Medical Officer	

### Central Staff

8 Oct 87, Nancy Sampson, HM2 General Duty	26 May 88, Mark K. Greenwood, HM3, Transferred
29 Feb 88, Joleen Correia, Clerk- Typist (Temp)	14 Jun 88, D. Joyce Stokes Greenwood, Secretary (Typing), Transferred

### Medical Information Systems Department, Code 20

31 Mar 87, Alvin Almada, HM1 General Duty	20 Feb 87, Nancy Adams, Computer Systems Programmer, Resigned
1 Jun 87, Tom Sager, Ph.D. (ASEE Fellow)	31 Jul 87, Dr. Tom Sager, Ph.D. (ASEE Fellow)
10 Aug 87, Donna Brady (Temp) Computer Programmer	5 Nov 87, Anthony J. Feaster Computer Programmer, Resigned
13 Jun 88, Jose Sepulveda, Ph.D. (ASEE Fellow), University of Central Florida, Orlando	5 Apr 88, Donna Brady (Temp) Computer Programmer, Resigned
2 Aug 88, Hoa Le Ly, Computer Programmer	27 May 88, Kathryn E. Medrano, Edit- orial Assistant (Typing), Resigned
15 Aug 88, Linda Wetteland  Editorial Assistant (Typing)	30 Jul 88, Dallas R. Hodgins, Compu- ter Systems Programmer, Resigned
	19 Aug 88, J. Sepulveda, Ph.D. (ASEE Fellow)

### Occupational Medicine Department, Code 30

20 Jul 87, Eddie Shaw Statistician (Health)	12 Jan 87, Murlowe L. von Stuck, CDR MSC USN, Clinical Psychologist, Transferred
4 Sep 87, John T. Coyne, LCDR MSC USN Environmental Health Officer	30 Jun 87, James C. Helmkamp, LCDR MSC USN, Environmental Health Officer, Transferred
13 Jun 88, Yoshito Kawahara, Ph.D. (ASEE Fellow), Mesa College, San Diego	26 Aug 88, Y. Kawahara, Ph.D. (ASEE Fellow)
19 Jul 88, Laurence Mueller, Ph.D. (ASEE Fellow), University of California at Irvine, California	23 Sep 88, L. Miller, Ph.D. (ASEE Fellow)

cont.

**WELCOME ABOARD TO**

**FAREWELL TO**

**Health Psychology Department, Code 40**

15 Jun 87, Brock Kilbourne, Ph.D.  
NRC Post-doc Associate

9 Nov 87, Barbara Du Bois. Ph.D.  
NRC Post-doc Associate

9 May 88, Jerry Linenger, LCDR USN  
Chapel Hill, NC

27 Jun 88, Doris Abood, Ed.D. (ASEE Fellow)  
Florida State University, Tallahassee,  
Florida

16 Oct 87, HM2 Peter R. Bell  
General Duty, Transferred

30 Oct 87, Terry Cronan-Hillix,  
Ph.D., (Temp), Research Psychol-  
ogist, Transferred

31 Aug 88, Jerry Linenger, LCDR USN  
Chapel Hill, NC

25 Aug 88, D. Abood, Ed.D. (ASEE  
Fellow)

**Behavioral Psychopharmacology Department, Code 50**

21 Jun 87, Gloria Held  
Editorial Assistant (Typing)

17 Jul 87, Gener B. Canimo, HM2  
EEG Technician

11 Oct 87, Julie Bellune (Temp)  
Research Psychologist

30 May 88, David G. McDonald, Ph.D. (ASEE  
Fellow), University of Missouri,  
Columbus, Missouri

19 Jun 88, Larry Matteson

19 Jun 88, Antoniette Burkhart  
VA Grant Collaborative Study Hires

1 Aug 88, Guy R. Banta, LCDR MSC USN  
Aerospace Physiologist, and Acting  
Department Head

3 Apr 87, Marcia Lucas, Editorial  
Assistant (Typing), Resigned

21 Apr 88, Arlene M. Nadolski  
EEG Technician, Resigned

12 Aug 88, D. G. McDonald, Ph.D.  
(ASEE Fellow)

24 Oct 88 Julie Bellune (Temp)  
Research Psychologist (Resigned)

**Ergonomics Department, Code 60**

24 Apr 87, Lamont Louis, HM2  
General Duty

14 May 87, Willie J. Bethea, HM3  
General Duty

30 May 88, Alan Langer, Ph.D. (ASEE Fellow)

30 May 88, Larry Lewandowski, Ph.D. (ASEE  
Fellow), Syracuse University, New York

8 Jun 87, Lawrence Lewandowski, Ph.D.  
(ASEE Fellow)

10 Jun 88, Richard T. Loving, R.N.  
VA Grant

13 Jun 88, Debra McLaughlin (ASEE Student)  
University of North Carolina,  
Chapel Hill, NC

15 Jan 87, Robert F. Parrish, HM3,  
General Duty, Released from Active  
Duty

14 Aug 87, Lawrence Lewandowski,  
Ph.D. (ASEE Fellow)

6 Jul 87, Michael Marcella, HM2  
Lab Technician, Transferred

31 Jul 87, John E. Yeager  
Research Physiologist, Resigned

3 Dec 87, Lamont Louis, ENS MSC USN  
Transferred

23 Mar 88, David J. Hord, Ph.D.,  
Research Psychologist, Terminated

29 Apr 88, Gary L. Anderson, HM1  
Retired

29 Jul 88, L. Lewandowski, Ph.D.  
(ASEE Fellow)

12 Aug 88, Ms. McLaughlin (ASEE  
Student)

12 Aug 88, A. Langer, Ph.D. (ASEE  
Fellow)

cont.

**WELCOME ABOARD TO**

**FAREWELL TO**

**Work Physiology Department, Code 70**

12 Jan 87, Edward C. Frye, HM3 General Duty	8 Apr 87, Edward C. Frye, HM3, GeneralDuty, Released from Active Duty
8 May 87, Princess M. Stover, HM3 General Duty	30 Jun 87, Frederick L. Harris, HM3 Lab Technician, Transferred
15 Jun 87, David G. McDonald, Ph.D. ASEE Summer Fellow	6 Jul 87, Arland L. Barr, HM3 Lab Technician, Transferred
15 Jun 87, Alan Langer, Ph.D. ASEE Summer Fellow	8 Aug 87, David G. McDonald, Ph.D. ASEE Summer Fellow
30 Aug 87, Christopher Leake Research Physiologist	8 Aug 87, Alan Langer, Ph.D. ASEE Summer Fellow
1 Aug 87, Ross R. Vickers, Jr., Ph.D. Research Psychologist (Dept Transfer)	31 Aug 87, Jennifer P. Hiett, HMI Lab Technician, Transferred
1 Aug 87, Linda K. Hervig Research Psychologist (Dept Transfer)	2 Sep 87, Linda Sikes, Editorial Assistant (Typing), Transferred
1 Sep 87, Dennis L. Kelleher, LCDR MSC USN, Physiologist	28 Oct 87, James P. Norton, LT MSC USNR, Aerospace Physiologist, Transferred
11 Sep 87, C. Glenn Armstrong, LCDR MSC USN, Aerospace Physiologist	16 Jun 88, Mary Ann Earls, Editori- al Assistant (Typing), Resigned
8 Nov 87, Mary Ann Earls Editorial Assistant (Typing)	28 Jul 88, A. Hackney, Ph.D. (ASEE Fellow)
12 Jun 88, David Arnell, Ph.D. (ASEE Fellow) Northern Arizona University, Flagstaff, Arizona	12 Aug 88, D. Arnell, Ph.D. (ASEE Fellow)
20 Jun 88, Anthony Hackney, Ph.D. (ASEE Fellow) Iowa State University, Ames, Iowa	
11 Jul 88, Marilyn Reddeg Editorial Assistant (Typing)	

**Research Support Department, Code 90**

2 Aug 87, Sonya Bethea (Temp) Computer Clerk	17 Jul 87, Billie J. Wright Computer Operator, Transferred
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## ASEE Summer Program (1987 & FY-88)

Initiated in 1986, the ASEE (American Society for Engineering Education) summer research program provides opportunities for college and university faculty members to establish continuing research relations and to expand their professional contacts with the R&D Community. This experience has been extended to the following:

- 1987, assigned to LT David Kobus, MSC USNR, Ergonomics Department (Code 60):  
Dr. Lawrence Lewandowski Department of Psychiatry, Syracuse University,  
Syracuse, New York
- 1987, assigned to the Applied Physiology Department (Code 70):  
Dr. Alan Langer, Department of Psychiatry, Syracuse University, Syracuse, New  
York, and  
Dr. David McDonald, Department of Psychology, University of Missouri-Columbus
- 1987, assigned to the Medical Information Systems Department (Code 20):  
Dr. Thomas Sage, Department of Psychiatry, University of Missouri-Rolla
- 1988, assigned to the Medical Information Systems Department (Code 20):  
Jose Sepulveda, Ph.D., Department of Industrial Engineering, University of  
Central Florida, Orlando,
- 1988, assigned to the Occupational Medicine Department (Code 30):  
Yoshito Kawahara, Ph.D., Department of Behavioral Sciences, Mesa College,  
San Diego, and  
Laurence Mueller, Ph.D., Department of Ecology & Evolutionary Biology,  
University of California at Irvine
- 1988, assigned to the Health Psychology Department (Code 40):  
Doris Abood, Ed.D., Department of Human Services & Studies, Florida State  
University, Tallahassee
- 1988, assigned to the Behavioral Psychopharmacology Department (Code 50):  
Dr. David McDonald, Department of Psychology, University of Missouri-Columbus
- 1988, assigned to the Ergonomics Department (Code 60):  
Ms. Debra McLaughlin (ASEE Student), Department of Neurobiology, University of  
North Carolina, Chapple Hill  
Lawrence Lewandowski, Ph.D., and Dr. Alan Langer, Ph.D., Department of Psychi-  
atry, Syracuse University, Syracuse, New York
- 1988, assigned to the Applied Physiology Department (Code 70):  
David Arnell, Ph.D., Physical Therapy Department, Northern Arizona University,  
Flagstaff, Arizona  
Anthony Hackney, Ph.D., Iowa State University, Ames, Iowa



Dr. Arnell      Dr. Gunderson      CAPT Chaney  
Dr. McDonald      Dr. Sepulveda      Dr. Mueller      Ms. McLaughlin

12 August 1988

Dr. McDonald of the University of Missouri-Columbus writes:

I am extremely pleased to have this opportunity to express my appreciation for the truly superb support that I received during my ASEE appointment this summer. I accomplished every single goal that I set out to research and I received nothing but the most courteous and helpful support from all members of your unit throughout my entire stay. While I am most reluctant to mention names for fear of forgetting someone, I do want to give special emphasis and thanks to the following:

Code 50--they helped me initiate a study that we expect to complete and submit for publication;

Colleagues at Code 70, their help and support for finishing several large projects remaining from my previous appointment;

The library and computer facilities are not only extremely valuable, they are also staffed by some of the nicest folks I know;

Administrative personnel in 306, and LT Kobus--they were always available and thoroughly professional in their assistance. Ralph Garcia came through for me in the finest fashion. Doubtless there were others who contributed and I apologize for any oversights. Again, thank you for one of the best research experiences I've ever had.

David G. McDonald, Ph.D.

23 September 1988

Dr. Abood of Florida State University, Tallahassee writes:

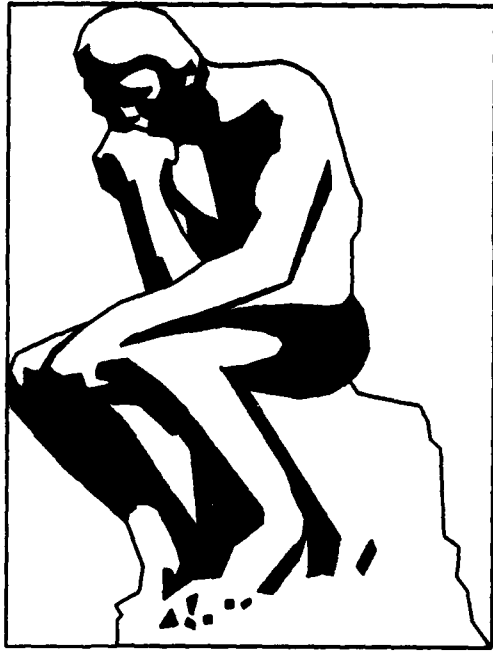
My purpose for writing is twofold. First, I enjoyed the opportunity to engage in meaningful research activity with the Naval Health Research Center. The nature of the data I was able to focus upon was perfectly aligned with my interests and background--a rare combination. Second, in regard to the staff which helped to make my experience extremely rewarding, one individual in particular is Terry Conway. Words cannot adequately express the high professional regard I have for Terry. I found her collegiality, refreshing, and her dedication to her work at NHRC admirable. She prepared for my visit with care and generously provided me with a tremendous opportunity to share in the comprehensive health picture of her Health and Physical Readiness project she has produced. Each time I needed an idea clarified, exchange of ideas or a simple shared sigh, she was there. My successful experience as an ASEE summer faculty was due in large part to the excellent working environment Terry Conway provided.

I also mention the excellent NHRC library enhanced greatly by the untiring efforts of Mary Aldous and Betty Croft. They provided me with immediate and highly professional assistance, coupled with their consistently cheerful attitude.

Thank you for the rewarding opportunity to engage in vigorous and challenging work. I hope our paths cross again.

Doris Abood, Associate Professor

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**SCIENTIFIC  
ACTIVITIES**

## Chief Scientist's Report

E. K. Eric Gunderson, Ph.D.

The Center expanded collaborative efforts with other laboratories during 1987 and FY-88 year to enhance mission accomplishment and reduce unnecessary duplication. Notable were exchanges with the Naval Medical Research Institute for planning of cold weather medical research and with the Naval Aviation Medical Research Laboratory for planning of sustained operations research. Also, the Center emphasized interdepartmental collaboration and coordination to maximize mission accomplishment with limited manpower resources. A notable example was support of the Navy Scientific Advisory Program by several departments. This trend has continued in the new programs initiated in FY-88.

The command's departmental structure represents six major research areas: (1) medical information systems, (2) occupational health and epidemiology, (3) sustained performance, including chemical defense, (4) exercise physiology, (5) behavioral psychopharmacology, and (6) health promotion and maintenance.

Major milestones were achieved in several areas during 1987. The Combat Casualty Care Medical Information System was enhanced by developing new software capabilities such as the addition of new items for status boards and a utility to manage digitizer tablet functions. New hardware devices such as radio frequency tags also were tested. Each new capability was evaluated in the field, both separately and with an integrated system. A large number of algorithms for treating penetrating trauma injuries was developed for battle casualties.

A survey of Independent Duty Corpmen's duties aboard surface ships was conducted to provide information needed by the SNAP Automated Medical System (SAMS) working group. Also, an in-depth evaluation of the SAMS prototype was performed, and the information flows for shipboard medical departments were diagrammed and documented.

The Navy Occupational Health Information Management System was installed at the Naval Regional Data Automation Center, Washington, D.C., and at the Naval Shipyard, Portsmouth, New Hampshire. New projects were initiated to estimate disease and non-battle injury rates aboard ship and ashore and combat casualty rates from a number of sources.

A Central Registry of HIV seropositive cases has been expanded for the Navy and Marine Corps. Computer records of all personnel tested are verified against NHRC personnel files and are provided to DEERS to enter into the Reportable Disease Data Base. Identification of all personnel tested allows calculation of rates of seropositivity. NHRC is regularly reporting results to Navy commands involved in HIV research or policymaking.

In the area of infectious disease, prototype computerized data collection techniques for outpatient information and survey data at the Navy's overseas laboratories in Cairo, Jakarta, Peru, and Manila were developed. The health status of a number of Navy unique populations such as submarines and engineering personnel were examined, and large-scale prospective studies examined the relationship of Navy occupations to the risk of cancer. The San Diego Epidemiologic Research Exchange was co-sponsored by NHRC, the University of California at San Diego (UCSD) Medical School, the San Diego State University Graduate School of Public Health, and the San Diego County Department of Health Services.

Evaluation of the Navy Health and Physical Readiness Program involved a number of important initiatives: (1) longitudinal Navy-wide follow-up of physical readiness and life style factors in more than 4,000 Navy personnel, (2) evaluation of smoking prevention and cessation interventions, (3) epidemiology and prevention of back injuries, (4) evaluation of nutrition interventions, (5) examination of hypertension screening and education, and (6) evaluation of the COMNAVAIRPAC health promotion program.

In collaboration with the Public Health Service, the effectiveness of special management procedures to contain the high costs of occupational injury and illness are being evaluated. Also, analysis of the role of the Independent Duty Corpsmen (IDC) aboard ship and the implementation of new medical policies will guide future training of IDCs. The special health needs of women aboard ship were addressed during 1988.

NHRC has continued to participate in a tri-service program investigating the effects of heavy physical work, sleep loss, and individual protective clothing on cognitive performance. Close collaboration in sustained operations research has been established with the Defence and Civil Institute of Environmental Medicine, Canada, the Walter Reed Army Institute of Research, the Department of Defense Human Factors Technical Advisory Group, and the Veterans Administration.

The feasibility of using Low Level White (LLW) Lighting to replace blue/red lighting on surface ships was investigated. The principal investigator, LT Dave Kobus, received a MILCAP award for his work on LLW Lighting.

NHRC has provided support to the fleet from basic laboratory research, field studies, and research in operational environments. One way NHRC has provided more direct support to the fleet has been through its participation in the Navy Science Assistant Program (NSAP). The mission of NSAP is to identify and resolve urgent technical problems affecting fleet operations and readiness, establish direct lines of communications between the operational forces and Navy R&D communities, and expose R&D personnel to the operational environments.

In response to NSAP taskings, NHRC has directed efforts to study and recommend solutions to specific problems related to existing operational environments. One such

study resulted from a request made to NSAP headquarters by the Commander, Mideast Forces (CMEF). As a result of this request, Center scientists participated in studies aboard surface ships in the Persian Gulf.


Another request was made by the Commander, Naval Surface Forces, Pacific (COMNAVSURFPAC) regarding the first aid treatment of burn patients aboard Navy ships. Numerous significant technological improvements have been made in treatment products for burn patients. COMNAVSURFPAC requested that an evaluation be conducted of one of these products which has been placed on a limited number of ships for emergency treatment of burn casualties. NHRC is currently collaborating with Naval Hospital, San Diego, through the Clinical Investigation Program to evaluate this product and study its treatment effectiveness.

The effects of benzodiazepines and caffeine on performance, daytime sleepiness, and memory loss were investigated in 1987. The international study of jet lag involving NHRC, the NASA-AMES Research Center, British Airways, and Japan Airlines focused on data analysis. The psychopharmacology laboratory moved to modern and spacious facilities in the new Naval Hospital.

Percent body fat has been found to be a reasonable indicator of certain health outcomes. NHRC also determined the relationship between height and weight and percent body fat based upon a large archival data set. By using NHRC developed anthropometric equations, the Navy became the first Armed Service to use only body composition in its "weight management" program.

NHRC developed a physical conditioning program based on circuit weight training for shipboard use (SPARTEN). SPARTEN was endorsed for use in the Fleet by the Naval Military Personnel Command, thus implementing the first large-scale use of circuit weight training as a physical conditioning modality in the military.

Running, cycling, and swimming tests were evaluated as indicators of cardiovascular capacity. Results showed that running and cycling tests were good indicators of aerobic fitness, but the swim test was not.

  
E. K. E. Gunderson, Ph.D.  
Chief Scientist

September 1988

## List of 1987 and FY-88 Reports

The abstracts for the following reports are provided in the following department summaries and are located on the page number in brackets:

Report No.

- 87-1 **Vickers, RR Jr.; LK Hervig, MT Wallace, RE Poland, & RT Rubin** [pg 50]  
**PSYCHOLOGICAL CORRELATES OF CORTISOL EXCRETION IN NORMAL INDIVIDUALS UNDER STRESS**  
 (Center Publication, AD# A183-065)
- 87-2 **Kobus, DA; MJ Beeler, & K Stashower** [pg 53]  
**ELECTROPHYSIOLOGICAL EFFECTS OF EXPERIENCE DURING AN AUDITORY TASK**  
 (Center Publication, AD# A180-093)
- 87-3 **Steele, TP** [pg 44]  
**ADVANCED HOSPITAL CORPS SCHOOL CURRICULUM RELEVANCE AND TRAINING EMPHASIS: PERCEPTIONS FROM THE FLEET**  
 (Center Publication, AD# A180-082)
- 87-4 **Spinweber, CL** [pg 51]  
**L-TRYPTOPHAN, SLEEP AND PERFORMANCE**  
 In: Proceedings, NATO Seminar, Defense Research Group, Seminar on Sleep and its Application for the Military, 16-17 March 1987, Lyons, France (in press)  
 (Center Publication, AD# A181-941)
- 87-5 **Burr, RG & LA Palinkas** [pg 41]  
**HEALTH RISKS AMONG SUBMARINE PERSONNEL IN THE U.S. NAVY, 1974-1979**  
Undersea Biomedical Research, 1987, 14(6), 535-544  
 (Center Publication, AD# A185-836)
- 87-6 **Cronan, TA & TL Conway** [pg 45]  
**IS THE NAVY ATTRACTING OR CREATING SMOKERS?**  
Military Medicine, 1988, 153(4), 175-178 (Center Publication, AD# A183-016)
- 87-7 **Buono, MJ; JE Yeager, AA, & JA Hodgdon** [pg 60]  
**PLASMA ADRENOCORTICOTROPIN AND CORTISOL RESPONSES TO SHORT-TERM, HIGH-INTENSITY EXERCISE IN HUMANS**  
Journal of Applied Physiology, 1986, 61(4), 1337-1339
- 87-8 **Gorham, ED; FL Garland, JC Helmkamp & EKE Gunderson** [pg 40]  
**DISEASE AND INJURY IN U.S. NAVY ENGINEERING OCCUPATIONS**  
 (Center Publication, AD# A187-721)
- 87-9 **Ryman, DH; P Naitoh, & CE Englund** [pg 56]  
**PERCEIVED EXERTION UNDER CONDITIONS OF SUSTAINED WORK AND SLEEP LOSS**  
Work and Stress (in press) (Center Publication, AD# A182-148)
- 87-10 **Englund, CE; DL Reeves, CA Shingledecker, DR Thorne, KP Wilson, & FW Hegge**  
**UNIFIED TRI-SERVICE COGNITIVE PERFORMANCE ASSESSMENT BATTERY (UTC-PAB)**  
 (Center Publication, AD# A182-480) [pg 57]
- 87-11 **Buono, MJ & JE Yeager** [pg 60]  
**INCREASES IN ALDOSTERONE PRECEDE THOSE OF CORTISOL DURING GRADED EXERCISE**  
 (Center Publication, AD# A181-983)
- 87-12 **Hoiberg, AL** [pg 48]  
**HEALTH RISKS OF U.S. NAVY DIVING** (Center Publication, AD# A199-344)



- 87-13 **Garland, FC; JC Helmkamp, EKE Gunderson, ED Gorham, MW Miller, MS McNally, & FA Thompson** [pg 42]  
**A GUIDE TO THE COMPUTERIZED MEDICAL DATA RESOURCES OF THE NAVAL HEALTH RESEARCH CENTER** (Center Publication, AD# A185-111)
- 87-14 **Conway, TL; LK Hervig, & RR Vickers Jr.** [pg 47]  
**NUTRITION KNOWLEDGE AMONG NAVY RECRUITS** (Center Publication, AD# A185-186)  
Journal of the American Dietetic Association (in press)
- 87-15 **Kobus, DA; LJ Lewandowski, & MM Flood** [pg 53]  
**COGNITIVE AND PERSONALITY CHARACTERISTICS OF EXPERIENCED AND INEXPERIENCED SONAR OPERATORS** (Center Publication, AD# A189-304)
- 87-16 **Palinkas, LA** [pg 38]  
**ANTARCTICA AS A MODEL FOR THE HUMAN EXPLORATION OF MARS**  
 In: Proceedings, Case for Mars III, 21 July 87, Boulder, Colorado (in press)  
 In: C Stoker (Ed.), The Case for Mars III. American Astronautical Society/  
 Univelt (in press) (Center Publication, AD# A185-835)
- 87-17 **Naitoh, P; CE Englund, & DH Ryman** [pg 57]  
**SUSTAINED OPERATIONS: RESEARCH RESULTS** (Center Publication, AD# A191-794)
- 87-18 **Blood, CG; DM Peeps-Brand, WM Pugh, & JC Helmkamp** [pg 34]  
**SHIPBOARD MEDICAL INFORMATION SYSTEM NEEDS ABOARD SURFACE SHIPS**  
 (Center Publication, AD# A186-094)
- 87-19 **Coben, P & LA Palinkas** [pg 42]  
**COMBAT CASUALTIES AMONG U.S. NAVY PERSONNEL IN VIETNAM: 1965-1972**  
 (Center Publication, AD# A189-904)
- 87-20 **Ryman, DH; P Naitoh, CE Englund, & SG Genser** [pg 56]  
**COMPUTER RESPONSE TIME MEASUREMENTS OF MOOD, FATIGUE AND SYMPTOM SCALE ITEMS: IMPLICATIONS FOR SCALE RESPONSE TIME USES** (Center Publication, AD# A186-093)  
Computers in Human Behavior, 1988, 4, 95-109
- 87-21 **Naitoh, P & RG Angus** [pg 57]  
**NAPPING AND HUMAN FUNCTIONING DURING PROLONGED WORK**  
 In: D Dinges & R Broughton (eds.), Napping: Biological, Psychological, and Medical Aspects (in press) (Center Publication, AD# A190-228)
- 87-22 **Hodgins, DR** [pg 35]  
**DESCRIPTIVE STATISTICS USING THE VETERANS ADMINISTRATION FILE MANAGER AS A RELATIONAL DATABASE MANAGEMENT SYSTEM** (Center Publication, AD# A186-097)
- 87-23 **Helmkamp, JC; LL Balazs, & PA Coben** [pg 41]  
**A DESCRIPTIVE SUMMARY OF ACTIVE-DUTY DEATHS IN THE U.S. NAVY IN 1986**  
 (Center Publication, AD# A186-095)
- 87-24 **Palinkas, LA** [pg 39]  
**GROUP ADAPTATION AND INDIVIDUAL ADJUSTMENT IN ANTARCTICA: A SUMMARY OF RECENT RESEARCH** (Center Publication, AD# A186-605)  
 In: Proceedings, The Human Experience in Antarctica Applications to Life in Space. 17 August 1987, Sunnyvale, California (in press)
- 87-25 **Peterson, KA; TA Cronan, & TL Conway** [pg 47]  
**PREDICTION OF PHYSICAL FITNESS: ESTIMATED PERCENT BODY FAT USING BODY CIRCUMFERENCES VERSUS WEIGHT-HEIGHT MEASURES** (Center Publication, AD# A190-233)  
Aviation, Space & Environmental Medicine (in press)

- 87-26 Beckett, MB & JA Hodgdon [pg 62]  
**LIFTING AND CARRYING CAPACITIES RELATIVE TO PHYSICAL FITNESS MEASURES**  
 (Center Publication, AD# A189-305)
- 87-27 Buono, MJ [pg 62]  
**VALIDITY OF THE 500 YARD SWIM AND 5 KILOMETER CYCLE RIDE AS INDICATORS OF  
 AEROBIC FITNESS**  
 (Center Publication, AD# A189-303)
- 87-28 Dutton, LJ & TL Conway [pg 48]  
**DIETARY FACTORS RELATED TO PHYSICAL FITNESS**  
American Journal of Health Promotion (in press)  
 (Center Publication, AD# A190-272)
- 87-29 Kobus, DA, LJ Lewandowski & MM Flood [pg 55]  
**THE SPATIAL MEMORY AND ROTATION TASK: A LOW-FIDELITY SIMULATION OF VISUAL  
 SONAR OPERATION**  
 (Center Publication)
- 87-30 Hord, DJ & L Merrill [pg 55]  
**ENDOGENOUS ERP COMPONENTS ASSOCIATED WITH PERFORMANCE IN SONAR OPERATORS: II.  
 VALIDATION OF A PERFORMANCE PREDICTION EQUATION**  
 (Center Publication, AD# A190-232)
- 87-31 Blood, CG & DMP Brand [pg 34]  
**SHIPBOARD MEDICAL INFORMATION SYSTEMS: FAMILIARITY AND RECEPTIVITY**  
Journal of Medical Systems, 1988, 12(3), 147-153  
 (Center Publication, AD# A189-905)
- 87-32 Blood, CG; DM Peeps-Brand, & WM Pugh [pg 34]  
**SHIPBOARD MEDICAL DEPARTMENT INFORMATION FLOWS** (Center Publication)
- 87-33 Palinkas, LA; L Balazs, & P Coben [pg 40]  
**CLINICAL AND CULTURAL PERSPECTIVES ON MENTAL ILLNESS IN THE U.S. NAVY**  
 (Center Publication, AD# A190-271)
- 87-34 Steele, TP [pg 45]  
**TASKS OF THE SHIPBOARD INDEPENDENT DUTY HOSPITAL CORPSMAN: TASK TRAINING  
 ADEQUACY AND PERFORMANCE FREQUENCY**  
 (Center Publication, AD# A180-906)
- 87-35 Sager, TG & WM Pugh [pg 36]  
**AUTOMATED MEDICAL ACQUISITION IN FIELD MEDICAL SYSTEMS**  
 (Center Publication, AD# A190-270)
- 87-36 Wilcox, WW & WM Pugh [pg 36]  
**DESIGN OF A COMBAT CASUALTY CARE MEDICAL INFORMATION SYSTEM (CCC/MIS)**  
 (Center Publication, AD# A190-231)
- 87-37 Conway, TL [pg 46]  
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 In: SW Johnson & JP Wetzel (Eds.), Engineering, Construction, and Operations in Space (pp 1044-1055). Conference Proceedings Space '88, 29-31 Aug 88, Albuquerque, New Mexico. 1988, New York: American Society of Civil Engineers.  
 (Center Publication, AD# A193-440)
- 88-9 Hodgins, DR [pg 36]  
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 MUMPS, Numerical Analysis, and Standards for Number Manipulation. e2, Logarithms, and the Normal Distribution  
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- 88-10 Burr, RG & LA Palinkas [pg 41]  
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- 88-15 **Pearsall, DM** [pg 35]  
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- 88-16 **Pearsall, DM & TM Hall** [pg 35]  
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- 88-19 **Nice, DS & BK Kilbourne** [pg 47]  
**DEMOGRAPHIC AND REGIONAL DETERMINANTS OF PARTICIPATION IN SPECIFIC  
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- 88-20 **Kilbourne, BK; CV Chesson, & SM Hilton** [pg 50]  
**MEDICAL AND NONMEDICAL PREDICTORS OF DISABILITY DISCHARGE DISPOSITION FOR  
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(Center Publication, AD# A200-088)
- 88-21 **Palinkas, LA & EKE Gunderson** [pg 39]  
**APPLIED ANTHROPOLOGY ON THE ICE: A MULTIDISCIPLINARY PERSPECTIVE ON HEALTH  
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- 88-22 **Hoiberg, AL** [pg 49]  
**A COST CONTAINMENT CASE FOR OCCUPATIONAL ILLNESS AND INJURY CASE MANAGEMENT**  
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- 88-23 **Vickers, RR Jr. & LK Hervig** [pg 64]  
**PSYCHOSOCIAL RISK FACTORS FOR UPPER RESPIRATORY INFECTIONS: ASSESSMENT OF  
UPPER RESPIRATORY ILLNESS DURING BASIC TRAINING**  
(Center Publication, AD# A200-570)
- 88-24 **Hoiberg, AL** [pg 49]  
**EPIDEMIOLOGIC RESEARCH OF OCCUPATIONAL ILLNESS AND INJURY IN THE NATIONAL  
OCEAN SERVICE WAGE MARINE WORK FORCE** (Center Publication, AD# A199-856)
- 88-25 **Vickers, RR Jr. & LK Hervig** [pg 65]  
**PSYCHOSOCIAL RISK FACTORS FOR UPPER RESPIRATORY INFECTIONS: DEMOGRAPHIC AND  
HEALTH HISTORY PREDICTORS OF URI DURING BASIC TRAINING**  
(Center Publication, AD# A200-569)

- 88-26 Kilbourne, BK; CV Chesson, & SM Hilton [pg 50]  
**PREDICTING SHORT VERSUS LONG HOSPITAL STAY FOR NAVY PERSONNEL WITH A BACK  
PROBLEM** (Center Publication, AD# A200-574)
- 88-27 White, MR; FC Garland, CR Garland, EK Shaw, & ED Gorham [pg 42]  
**MALIGNANT MELANOMA IN U.S. NAVY PERSONNEL** (Center Publication)
- 88-28 Vickers, RR Jr. [pg 65]  
**EXAMINING BIVARIATE ITEM-CRITERION ASSOCIATIONS: A METHOD OF EXPLORING  
PERSONALITY CORRELATES OF JOB-RELATED BEHAVIORS**  
(Center Publication, AD# A200-568)
- 88-29 Lewandowski, LJ; DA Kobus, MM Flood, & WJ Hoyer [pg 55]  
**THE EFFECTS OF AGE AND EXPERIENCE ON SONAR PERFORMANCE**  
(Center Publication, AD# A200-575)
- 88-30 Kobus, DA & K Stashower [pg 55]  
**EFFECTS OF EXPERIENCE AND TASK DIFFICULTY ON EVENT-RELATED POTENTIALS**
- 88-31 Gray, CG; FC White, MD McKirnan, MR Lawlor, & CM Bloor [pg 64]  
**EFFECTS OF EXERCISE INTENSITY AND PRE-EXERCISING FEEDING ON SPLANCHNIC  
TISSUE BLOOD FLOW** (Center Publication)
- 88-32 McKirnan, MD; CG Gray, & FC White [pg 64]  
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Journal of Applied Physiology, in press) (Center Publication, AD# A199-547)
- 88-33 Pugh, WW [pg 34]  
**USE OF ARTIFICIAL INTELLIGENCE TECHNIQUES FOR MEDICAL READINESS PLANNING**
- 88-34 McDonald, DG; JP Norton, & JA Hodgdon [pg 66]  
**DETERMINANTS AND EFFECTS OF TRAINING SUCCESS IN U.S. NAVY SPECIAL FORCES**  
(Center Publication, AD# A200-684)
- 88-35 McDonald, DG; MB Beckett, & JA Hodgdon [pg 66]  
**PSYCHOLOGICAL PREDICTORS OF FITNESS AND PERFORMANCE IN ACTIVE DUTY U.S. NAVY  
PERSONNEL** (Center Publication, AD# A200-377)
- 88-36 Vickers, RR Jr. & LK Hervig [pg 65]  
**PSYCHOSOCIAL RISK FACTORS FOR UPPER RESPIRATORY INFECTIONS: PERSONALITY  
PREDICTORS OF URI DURING BASIC TRAINING** (Center Publication, AD# A200-573)
- 88-37 Vickers, RR Jr. & LK Hervig [pg 65]  
**PSYCHOSOCIAL RISK FACTORS FOR UPPER RESPIRATORY INFECTIONS: SELF-MONITORING,  
SELF-CONSCIOUSNESS, AND SYMPTOM REPORT ACCURACY**  
(Center Publication, AD# A200-572)
- 88-38 Hyams, KC; LA Palinkas, & RG Burr [pg 42]  
**VIRAL HEPATITIS IN THE U.S. NAVY, 1975-1984**
- 88-39 McCaughey, BG; JB Kelley, & G Silverman [pg 43]  
**A POST-DISASTER FOLLOW-UP OF HEALTH-RELATED OUTCOMES IN U.S. NAVAL PERSONNEL**  
(Center Publication)

## Department: Medical Information Systems, Code 20

Head: William Pugh

From January to September 1987, the Medical Information Systems Department, accomplished many goals in a variety of project areas. In the area of combat casualty care, the Combat Casualty Care Medical Information System (CCC/MIS) was enhanced by developing new software capabilities such as the addition of new items to status boards and the creation of a utility to manage digitizer tablet functions. In addition, new hardware devices such as radio frequency tags were tested. Each new capability was evaluated in the field, both separately and as an integrated system. Test results were used to revise and document design specifications for a ruggedized casualty care system. In the area of shipboard systems, information needed by the SNAP Automated Medical System (SAMS) working group was obtained by analyzing the results from a survey of Navy surface ships. Also, an in-depth evaluation of the SAMS prototype was conducted and the information flows for shipboard medical departments were diagrammed and documented. In the area of occupational health, a distribution package for the Navy Occupational Health Information Management System (NOHIMS) was prepared and the system was installed at the Naval Regional Data Automation Center (NARDAC), Washington. Also assistance was provided for the installation of NOHIMS at the Portsmouth Naval Shipyard, Portsmouth, New Hampshire.

A series of epidemiologic studies were conducted on U. S. Marine Corps personnel who were hospitalized while on duty in Vietnam between 1965 and 1972. Two studies examined psychiatric hospitalizations among U.S. Marines in Vietnam and one study explored the relationship between combat casualties and diseases and non-battle injuries. Also, Marines assigned to duty in Vietnam were compared to Marines assigned elsewhere. Finally, 148 algorithms for treating penetrating trauma injuries were developed.

During Fiscal Year 1988, this Department concentrated most of its efforts on an investigation of Disease and Non-Battle Injuries (DNBI). The goal of this effort was to determine the DNBI rates for Navy and Marine Corps operational forces afloat and ashore. The work involved locating sources of inpatient and outpatient medical data, finding the personnel strengths of Navy and Marine Corps units, and establishing where these units were operating during various time periods. These data were accumulated and organized to generate the DNBI database. Analyses were conducted to determine the DNBI rates for Navy and Marine Corps personnel afloat and ashore, for three regions--Southwest Asia, Northeast Asia, and Europe during the years 1975 and 1985. In addition a method was developed for projecting DNBI rates for areas for which no data are available or for situations that are yet to occur. Finally This department has also continued to function as a member of the Navy Occupational Health Information Management System (NOHIMS) configuration control board to provide the support needed to transition NOHIMS into the production environment.

Publications from January 1987 to September 1988 include:

87-18 Blood, CG; DM Peeps-Brand, WM Pugh, & JC Helmkamp  
**SHIPBOARD MEDICAL INFORMATION SYSTEM NEEDS ABOARD SURFACE SHIPS**  
(Center Publication, AD# A186-094) Work Unit: M0095.05-1053

Abstract: Shipboard medical department representatives indicated a great need for medical department automation. Automated functions most needed were: report generator, medical supply inventory, medical reference library, pharmacy support, message formatting, and a daily task inventory. The monthly morbidity report was the most frequently cited report needing computerization. Degree of need varied among functions perceived to require automation. The medical department functions of supply inventory and report generation were needed by over 95% of the respondents. The capability of shipboard medical personnel to customize reports to their specific ship's demands would mitigate problems associated with differing report requirements among type commands and individual ships.

87-32 Blood, CG; DM Peeps-Brand, & WM Pugh  
**SHIPBOARD MEDICAL DEPARTMENT INFORMATION FLOWS**  
(Center Publication, AD# A199-860) Work Unit: M0095.05-1053

Abstract: Numerous transmissions originating within shipboard medical departments are required by U.S. Navy regulations and policies. These information flows may terminate aboard the ship, within the task force, or with external Navy commands. Medical Department computerization would alleviate much of the administrative burden associated with the reporting demands. Specific information flows were proposed for shipboard automation. The documented medical department communications include a weight control memorandum, atmosphere control reports, medical regulating messages, and asbestos reporting requirements. Issues of concern to the development of a medical information system were also discussed.

87-31 Blood, CG & DMP Brand  
**SHIPBOARD MEDICAL INFORMATION SYSTEMS: FAMILIARITY AND RECEPTIVITY**  
(Center Publication, AD# A189-905) Work Unit: M0095.05-1053  
Journal of Medical Systems, 1988, 12(3), 147-153

Abstract: Perceived automation needs and current medical department computerization status aboard ships of the U.S. Pacific Fleet were found to be related. Current medical department automation status consisted of microcomputers and/or the Shipboard Non-tactical ADP Program (SNAP). Measures of receptivity to department automation included perceived need for automation of reports and composite scores of perceived need for 12 automated medical capabilities. Those ships with the highest present levels of automation were the most receptive to medical department computerization. Lack of familiarity with benefits to be attained through automation was proposed as responsible for observed decrements in receptivity among medical departments.

88-33 Pugh, WW  
**USE OF ARTIFICIAL INTELLIGENCE TECHNIQUES FOR MEDICAL READINESS PLANNING**  
Work Unit: M0095.005-1053

Abstract: A system developed for medical readiness planners to project illness and injury rates is discussed. The design of a computer program called the

Morbidity and Injury Projection System (MIPS) was outlined and an example was provided to illustrate how the MIPS operates and to demonstrate the effect of implementing three different projection models. It was concluded that MIPS was appropriate for tasks where: a) predictor variables are categorical, b) numerous predictor variables are needed to specify potential target populations, and (c) it is necessary to account for incomplete areas in the initial data base.

**88-14 Hermansen, LA & WM Pugh**

**AN OVERVIEW OF THE NAVY OCCUPATIONAL HEALTH INFORMATION MANAGEMENT SYSTEM (NOHIMS)**

(Center Publication, AD# A193-418)

Work Unit: M0095.005-1053

Abstract: The Navy Occupational Health Information Management Systems (NOHIMS) is an integrated computer system developed to assist the Navy in meeting occupational health and safety requirements. The history and design of NOHIMS is described. Details about the system's various modules and their functions are provided. An operational scenario, which demonstrates how NOHIMS can facilitate an occupational safety and health program at a Navy shipyard, is presented.

**88-16 Pearsall, DM & TM Hall**

**INITIAL SOFTWARE AND DATA LOAD PROCEDURES FOR NOHIMS**

(Center Publication, AD# A195-319)

Work Unit: M0095.005-1053

Abstract: This document provides step-by-step instructions for installing the Navy Occupational Health Information Management Systems (NOHIMS) software. It also describes how to create site baseline systems, daily operations and controls, communications, and other system software.

**88-15 Pearsall, DM**

**PROCEDURES FOR INITIALIZING VETERANS ADMINISTRATION (VA) FILEMANAGER AND KERNEL**

(Center Publication, AD# A196-209) Work Unit: M0095.005-1053

Abstract: Existing documentation for installing Kernel and VA Filemanager have been oriented toward the M11+, M11, and DSM MUMPS operating systems. This document provides a cookbook approach for installing the Kernel and VA Filemanager packages using the M/VX MUMPS operating system.

**87-22 Hodgins, DR**

**DESCRIPTIVE STATISTICS USING THE VETERANS ADMINISTRATION FILEMANAGER AS A RELATIONAL DATABASE MANAGEMENT SYSTEM**

(Center Publication, AD# A186-097)

Work Unit: M0095.05-1053

Abstract: The development of descriptive statistics programs underscores the efficacy of a relational data base. Relational arrays being amenable to algebraic manipulation allow efficient analysis and independent data bases. The Veterans Administration Filemanager is viewed as a relational data base management system.



88-12 Hodgins, DR  
**COMPLETE PIVOTAL GAUSSIAN ELIMINATION USING THE VETERANS ADMINISTRATION FILE-MANAGER**  
(Center Publication, AD# A195-603) Work Unit: M0095.005-1053

Abstract: The MUMPS (Massachusetts General Hospital Utility Multi-Programming System) programming language used in conjunction with the Veterans Administration Filemanager to create relational data structures is shown to be a powerful, versatile media for numerical analysis. An algorithm to solve the linear equations of multiple regression is developed to explore and exploit the characteristics of the MUMPS language in handling numbers. Using the notation of linear algebra and properly exploiting the inherent data storage virtues of MUMPS leads to efficient, fast code as exemplified in the algorithm for complete pivotal forward Gaussian elimination presented in this paper.

88-9 Hodgins, DR  
**e<sup>2</sup> LOGARITHMS, AND THE NORMAL DISTRIBUTION**  
(Center Publication, AD# A196-044) Work Unit: M0095.005-1053

Abstract: The MUMPS (Massachusetts General Hospital Utility Multi-Programming System) language allows only simple arithmetic operations; therefore, MUMPS routines were developed to meet the need to evaluate numbers  $N$  represented  $N=e^x$ . Programs are presented that find  $x$  given  $N$ , find  $N$  given  $x$ , and use these operations in developing a rational approximation for the normal (Gaussian) probability density function integral. The MUMPS string functions \$EXTRACT, \$FIND, and \$LENGTH are shown to be efficient aids in examining numbers.

87-35 Sager, TG & WM Pugh  
**AUTOMATED MEDICAL ACQUISITION IN FIELD MEDICAL SYSTEMS**  
(Center Publication, AD# A190-270) Work Unit: M0095.05-1053

Abstract: The functional design of a system to automatically capture combat casualty care data was defined. A prototype system was developed using a graphics tablet interfaced with an IBM PC/AT compatible computer. Software written in Turbo Pascal allowed users to associate areas selected from a form with appropriate semantic information. This capability was implemented using quadcodes which provided the degree of efficiency needed for timely data processing.

87-36 Wilcox, WW & WM Pugh  
**DESIGN OF A COMBAT CASUALTY CARE MEDICAL INFORMATION SYSTEM (CCC/MIS)**  
(Center Publication, AD# A190-231) Work Unit: M0095.05-1053

Abstract: Information obtained from a rigorous systems analysis of current field medical treatment procedures was used to produce the functional design for a prototype casualty care medical information system. The design objectives were: 1) to reduce time spent on administrative functions, 2) to eliminate the loss of important patient data, and 3) generally improve patient care and medical resource management. After field testing various proposed automated features to determine their survivability and functionality, a preliminary working prototype was assembled and

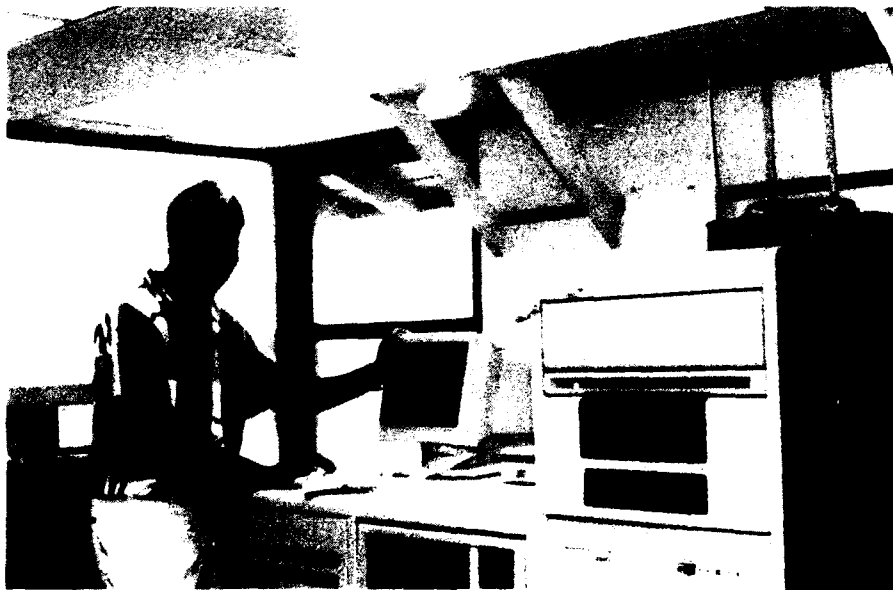
successfully demonstrated for the Marine Corps. The layout and operational design for implementing a full-scale system was presented.

88-4 Wilcox, WW

**FIELD TESTING OF THE COMBAT CASUALTY CARE MEDICAL INFORMATION SYSTEM (CCC/MIS)**  
(Center Publication, AD# A195-385) Work Unit: M0095.005-1053

Abstract: Following the prototype development and functional specifications for a combat casualty care information system, rigorous field testing was performed on critical system elements to determine utility and survivability under typical field conditions. The system successfully performed patient data processing and report generation in a manner superior to the current hand processing methods. Field test results indicate that between four and six medical personnel could be freed from administrative burdens.

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Larry Hermansen, Computer Systems Analyst in Code 20, beside the new VAX 8250 computer acquired in March 88, to be used with NOHIMS and DNBI research studies.

## Department: Occupational Medicine, Code 30

Head: Frank C. Garland, Ph.D.

The HIV Seropositivity Central Registry has been expanded to include the capability of identifying Navy and Marine Corps personnel who have received an ELISA blood test for the presence of antibodies to HIV. Computer files of all personnel tested are verified against NHRC personnel files, and then are provided to DEERS to be entered into the Reportable Disease Data Base (RDDB). The RDDB contains the results of all blood tests given to Navy and Marine Corps personnel. Identification of all personnel tested allows calculation of rates of HIV seropositivity. The Department is producing a monthly newsletter entitled "U.S. Marine Corps and Navy HIV Update" that is sent to Navy commands directly involved in HIV research or policy-making.

The Environmental Health Surveillance Program was expanded in the area of infectious disease and non-battle injuries (DNBI) studies. The expansion involved development of prototype computerized data collection techniques for outpatient information and survey data at the Navy's foreign laboratories in Cairo, Peru, Jarkata, and Manila. Several studies of the health status of Navy unique populations, such as submariners and engineering personnel, were carried out under this program. Other large-scale prospective studies examined the relationship of Navy occupation to the risk of cancer in Navy personnel.

Initiated in 1986, the Occupational Medicine Department continues to coordinate the San Diego Epidemiologic Research Exchange. The 1987 Exchange was cosponsored by the UCSD Medical School, the San Diego State University Graduate School of Public Health, and the San Diego County Department of Health Services and was the primary local forum for San Diego's epidemiologic community. The 3rd Annual Exchange, held 14 May 88 held at UCSD's Lieb Auditorium, was organized and coordinated by Dr. Garland, Martin White and Eddie Ko Shaw. NHRC was one of the sponsors.

Publications from January 1987 to September 1988 include:

87-16 Palinkas, LA

**ANTARCTICA AS A MODEL FOR THE HUMAN EXPLORATION OF MARS**

In: Proceedings, Case for Mars III, 21 July 87, Boulder, Colorado (in press)  
(Center Publication, AD# A185-835) Work Unit: Army 3M162770.A870.AR-621

Abstract: This paper describes the human experience in Antarctica and examines its relevance in planning for the eventual human exploration of Mars. A brief historical overview of the experience of social adaptation and psychological adjustment of antarctica expeditions is provided with emphasis on group adaptation and psychological adjustment. Factors which currently influence these processes, including social organization, "Antarctic culture," social and psychological resources used for coping with stress, and environmental resources and constraints, are examined. This paper also describes the effect of these processes on the health and performance of Antarctic winter-over personnel.

**87-24 Palinkas, LA**  
**GROUP ADAPTATION AND INDIVIDUAL ADJUSTMENT IN ANTARCTICA: A SUMMARY OF RECENT RESEARCH**

In: Proceedings, The Human Experience in Antarctica Applications to Life in Space. 17 August 1987, Sunnyvale, California (in press)  
(Center Publication, AD# A186-605) Work Unit: Army 3M162770.A870.AR-621

Abstract: This paper summarizes a series of studies which examined the health and service history records of enlisted Navy personnel who volunteered for the Operation Deep Freeze Program between 1963 and 1974. These studies found that personnel who wintered-over in Antarctica during this period exhibited a significantly lower rate of subsequent first hospitalizations than did a control group of personnel who were screened and found qualified for winter-over duty but assigned elsewhere. An increase in total disease was observed among the winter-over group within a year of their return from Antarctica but was not statistically significant relative to the rate of the control group. In addition, individuals with high needs for achievement and control over others were found to be at reduced risk for long-term disease incidence.

**88-8 Palinkas, LA**  
**THE HUMAN ELEMENT IN SPACE: LESSONS FROM ANTARCTICA**

In: SW Johnson & JP Wetzel (Eds.), Engineering, Construction, and Operations in Space (pp 1044-1055). Conference Proceedings Space '88, 29-31 Aug 88, Albuquerque, New Mexico. 1988, New York: American Society of Civil Engineers.  
Work Unit: Army 3M162770.A870.AR-621  
(Center Publication, AD# A193-440)

Abstract: A review of the human experience in Antarctica indicates that manned operations in space may be enhanced by altering the environment or developing programs to strengthen processes of adaptation and adjustment to prolonged isolation in extreme environments. Space stations and offworld communities should be designed to minimize physical, cognitive, and affective demands of the environment; incorporate communications technology which provides optimal levels of interaction with earth; and provide opportunities for meeting individual needs, minimizing social conflicts, and fulfilling individual, social, and organizational expectations. Screening programs should be focussed on best qualified candidates from the standpoint of adaptation to this specific environment. Training programs designed to reduce group tension and improve performance should be encouraged. Cultural systems tailored to facilitate individual adjustment and social interaction in space should be developed.

**88-21 Palinkas, LA & EKE Gunderson**  
**APPLIED ANTHROPOLOGY ON THE ICE: A MULTIDISCIPLINARY PERSPECTIVE ON HEALTH AND ADAPTATION IN ANTARCTICA**

(Center Publication, AD# A198-926) Work Unit: Army 3M162770.A870.AR-621

Abstract: This paper describes the health and adaptation of Antarctic winter-over personnel and outlines some of the ways in which applied medical anthropology can play a central role in understanding and improving health and performance under conditions of prolonged isolation in an extreme environment. The holistic perspective of anthropology allows for an examination of the respective contribution of group and individual processes to adaptation, the importance of meaning systems which define adaptation and identify the role of health and performance in that

definition, and the interaction between biomedical and cultural components of health and adaptation. In doing so, applied research could make important contributions to the development of biomedical models of health and human behavior.

**88-17 Gunderson, EKE & LA Palinkas**

**A REVIEW OF PSYCHOLOGICAL STUDIES IN THE U.S. ANTARCTIC PROGRAM**

(Center Publication, AD# A198-924)

Work Unit: National Science Foundation Reimbursable DPP/87166461

Abstract: Psychological studies were initiated at U.S. Antarctic stations during the International Geophysical Year of 1957-58. A more comprehensive program of psychological studies, designed to develop selection criteria for screening Antarctic personnel, was instituted in 1962 by the U.S. Navy. A general concept of individual performance or adjustment emerged from earlier studies that included three essential components: task motivation, emotional stability, and social compatibility. Two methods, supervisor ratings and peer nominations, were used to measure these three behavior components, and convergent and discriminant validities were evaluated. Regression equations were then developed to predict each behavior factor for each of three occupational groups, Navy construction personnel, Navy administrative and technical personnel, and civilian scientists. Recent studies have shown that the winter-over experience does not place Navy personnel at increased risk of hospitalization after their return from the Antarctic. The stressors associated with prolonged isolation in a harsh environment appear to be mediated by personality, environmental, and sociocultural factors.

**87-33 Palinkas, LA; L Balazs, & P Coben**

**CLINICAL AND CULTURAL PERSPECTIVES ON MENTAL ILLNESS IN THE U.S. NAVY**

(Center Publication, AD# A190-271)

Work Unit: Army 3M162770.A870.AR-621

Abstract: This paper describes the cultural foundations of mental illness in the U.S. Navy and examines of ethnic differences in self-reported symptoms and precipitating factors, referral sources, DSM-III diagnoses, and clinician recommendations of over 10,000 outpatients. Results indicated that differences in cultural meanings significantly alter the experience and symptoms of mental illness among members of different ethnic groups in the same organizational environment. The medical culture of mental health in the Navy is characterized by the interaction of three distinct systems of meaning: those held by the clinician, the patient, and the organization. At each of four stages in an illness event--precipitating factors, referral, diagnosis, and recommendation--each of these meaning systems exerts a specific influence on the behavior of patient, clinician, and organization.

**87-8 Gorham, ED; FC Garland, JC Helmkamp, & EKE Gunderson**

**DISEASE AND INJURY IN U.S. NAVY ENGINEERING OCCUPATIONS**

(Center Publication, AD# A187-721)

Work Unit: M0096.002-1054

Abstract: During 1974-79, active-duty enlisted personnel in Navy engineering occupations had 20% higher risk of hospitalization for musculoskeletal diseases, accidental injuries, mental disorders, and nervous system disorders (principally hearing loss) than the rest of the Navy. These excesses declined during 1980-83,

except for nervous system disorders (hearing loss). Boiler Technicians were the major contributor to the excess disease and injury observed in Navy engineering personnel, having significantly elevated risk for accidental injuries, musculo-skeletal conditions, circulatory disease, nervous system diseases, and mental disorders during both time periods. Other high-risk occupations were Hull Maintenance Technicians, Enginemen, and Machinist's Mates.

**87-23 Helmkamp, JC; LL Balazs, & PA Coben**  
**A DESCRIPTIVE SUMMARY OF ACTIVE-DUTY DEATHS IN THE U.S. NAVY IN 1986**  
(Center Publication, AD# A186-095) Work Unit: M0096.02-1054

Abstract: Summaries of mortality are useful in describing death within various populations. In the Navy, information which annually characterizes death is generally not available until several years after the fact. The objective of this study is to describe deaths among active-duty Navy personnel during 1986 by using the Report of Casualty (DD Form 1300), a source that provides the most complete information in the shortest time. Information in this report includes basic demographic data such as age, sex, race, occupational specialty, and paygrade as well as time and place of death and the cause and circumstance associated with death. Use of this information permits a more timely observation of temporal and geographic trends.

**87-5 Burr, RG & LA Palinkas**  
**HEALTH RISKS AMONG SUBMARINE PERSONNEL IN THE U.S. NAVY, 1974-1979**  
(Center Publication, AD# A185-836) Work Unit: M0096.002-1054  
Undersea Biomedical Research, 1987, 14(6), 535-544

Abstract: This study compared hospitalization rates of submariners with surface ship personnel. The groups were compared on age-adjusted hospitalization rates for 16 major diagnostic categories and several specific diagnoses postulated to be submarine associated. Submarine personnel did not have significantly higher hospitalization rates for any diagnostic categories nor for any of the submarine associated illnesses. Submariner relative risk of hospital admissions was greater for a few selected diagnoses but statistical significance was not attained. The health status of U.S. Navy personnel does not appear to be adversely affected by submarine duty.

**88-10 Burr, RG & LA Palinkas**  
**MENTAL DISORDER HOSPITALIZATIONS AMONG SUBMARINE PERSONNEL IN THE U.S. NAVY**  
(Center Publication, AD# A195-871) Work Unit: Army 3M162770.A870.AR-621

Abstract: This study compared mental disorder hospitalization rates of submariners with surface-ship personnel. Using age-adjusted hospitalization rates, submarine personnel showed statistically significantly lower relative risks (RR) for hospitalizations for total mental disorders (RR-.58). Submariners were also significantly lower in hospitalization admissions for alcohol abuse (RR-.40), drug abuse (RR-.52), and personality disorders (RR-.69). Overall, hospitalization rates for mental disorders for submarine personnel were about one-half the rate for surface ship personnel.

**87-19 Coben, P & LA Palinkas**  
**COMBAT CASUALTIES AMONG U.S. NAVY PERSONNEL IN VIETNAM: 1965-1972**  
(Center Publication, AD# A189-904) Work Unit: M0095.005-1053

Abstract: This paper provides a descriptive account of combat casualties among Navy enlisted personnel in Vietnam between 1965 and 1972. These individuals were identified as battle injuries on the Enlisted Medical History File and accounted for 7,419 first hospitalizations with one or more diagnoses of accidents, poisonings, and violence. More than half of these admissions were direct from the battlefield and the mortality rate was much lower than has been reported for Army and Marine Corps casualties in Vietnam or casualties in previous conflicts.

**87-13 Garland, FC; JC Helmkamp, EKE Gunderson, ED Gorham, MW Miller, MS McNally, & FA Thompson**  
**A GUIDE TO THE COMPUTERIZED MEDICAL DATA RESOURCES OF THE NAVAL HEALTH RESEARCH CENTER**  
(Center Publication, AD# A185-111) Work Unit: M0095.005-1053

Abstract: The Occupational Medicine Department of the Naval Health Research Center has developed extensive computerized medical data resources for use in disease surveillance, occupational health, and epidemiologic research. This report describes in detail these data resources and provides potential users with an understanding of the research capabilities of this system and a guide to the medical and demographic information it contains.

**88-27 White, MR; FC Garland, CF Garland, EK Shaw, & ED Gorham**  
**MALIGNANT MELANOMA IN U.S. NAVY PERSONNEL**  
(Center Publication) Work Unit: M0096.02-1054

Abstract: 176 confirmed cases of malignant melanoma occurred in active-duty enlisted personnel between 1974-1984 (4,072,502 person-years). The age-adjusted incidence rate of melanoma in the Navy was 9.5 per 100,000 and was similar to the U.S. SEER population (9.2 per 100,000). Two occupations showed statistically significant high standardized incidence ratios (SIRs): Aircrew Survival Equipmentman, SIR=6.8; and Engineman, SIR=2.8. However, occupations with similar exposures had no excess risk. Indoor occupations had elevated risk compared to the SEER population (SIR=1.15,  $p=0.06$ ), and outdoor occupations had about the same risk (SIR=1.02, NS). Occupations with both indoor and outdoor exposure had the lowest risk (SIR=0.76,  $p=0.06$ ). A mechanism is proposed in which vitamin D from sunlight exposure inhibits melanoma development.

**88-38 Hyams, KC; LA Palinkas, & RG Burr**  
**VIRAL HEPATITIS IN THE U.S. NAVY, 1975-1984**  
Work Unit: Army 3M162770.A870.AR-621

Abstract: The epidemiology of viral hepatitis in U.S. Navy personnel was reviewed for the years 1975 through 1984. During this period, total first hospitalizations for viral hepatitis declined from 128 to 56 per 100,000 person years. The highest incidence of acute viral hepatitis was found in personnel 24 years of age and younger. Risk factors for acute hepatitis included a previous hospitalization with a

diagnosis of drug abuse or a sexually transmitted disease. Having a medical job classification, particularly in jobs requiring exposure to blood, was also associated with an increased risk of acute hepatitis. The steep decline in the incidence of viral hepatitis during this 10-year period was probably due to decreasing drug abuse in the U.S. Navy. Immunization of high-risk naval personnel with hepatitis B vaccine could be an effective policy for the prevention of acute viral hepatitis.

**88-39 McCaughey, BG; JB Kelley, & G Silverman**  
**A POST-DISASTER FOLLOW-UP OF HEALTH-RELATED OUTCOMES IN U.S. NAVAL PERSONNEL**  
(Center Publication) Work Units: MR0000.01.01-6030 and M0095-PN.001-1047

Abstract: A life table analysis of Navy enlisted personnel who were hospitalized survivors of disasters (between 1966 and 1979) showed that cases and controls did not differ significantly in their post-disaster medical event rates and diagnoses. However, it was found that psychiatric diagnoses occurred earlier in the post-disaster period among cases than among controls. Although military personnel involved in disasters were likely to have an administrative outcome and medical courses that similar to other hospitalized patients, disaster victims mental health problems are likely to occur following involvement in a disaster. In addition, for the 17 to 19 year old group, there is an increased possibility of disaster victims being involved in future accidents.

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Dr. Palinkas at the South Pole conducting a study of "Adaptation and Adjustment in Antarctica and its Effects on Health and Performance."



## Department: Health Psychology, Code 40

Head: D. Stephen Nice, Ph.D.

The research programs in the Health Psychology Department range from basic research in social and health psychology through applied work in health care delivery afloat and cost containment ashore. Our postdoctoral fellows from the National Research Council are conducting a series of studies of social psychological factors associated with health and health care delivery. Dr. Du Bois is developing a model of the psychosocial etiology of obesity and hypertension. Dr. Kilbroune is exploring the dynamic process of psychological adjustment to hospitalization and its implications for health care delivery.

Ms. Terry Conway continues to direct the evaluation of the Navy Health and Physical Readiness Program. This major effort encompasses a number of initiatives including (1) the longitudinal Navy-wide follow-up of physical readiness and lifestyle factors of over 4,000 Navy personnel, (2) the evaluation of smoking prevention and cessation interventions, (3) the epidemiology of back injuries and the evaluation of prevention programs, (4) the evaluation of nutrition intervention, and (5) the examination of hypertension screening, education, and controls. LT Chesson is completing a one-year evaluation of the COMNAVAIRPAC health promotion program, "Fighting Fit," which was implemented at NAS North Island.

Another important research endeavor of the Health Psychology Department is to evaluate the effectiveness of management procedures in containing the high costs incurred by occupational injury and illness. This research, conducted by Ms. Anne Hoiberg, will evaluate the effectiveness of a process developed to coordinate operational, environmental, and clinical services within the maritime work force of the National Ocean Service. Results of this effort will provide support for Navy initiatives and policies managing and administering cases of occupational illness and injury.

Over the past year, work also has continued in the area of operational medicine. Capitalizing on our previous research on shipboard independent duty hospital corpsmen (IDC), new work has begun to evaluate health care requirements for women aboard Combat Logistic Force ships. This research, directed by LT Timothy Steele, is expected to provide important guidelines for the staffing and administration of shipboard medical programs.

Reports for January 1987 to September 1988 include:

**87-3 Steele, TP**  
**ADVANCED HOSPITAL CORPS SCHOOL CURRICULUM RELEVANCE AND TRAINING EMPHASIS:**  
**PERCEPTIONS FROM THE FLEET**  
(Center Publication, AD# A180-082) Work Unit: M0106.001-0008

Abstract: The findings of this study of shipboard independent duty corpsmen (IDCs) provided support for the overall relevance of the IDC curriculum. However, differences were found between IDCs aboard surface ships and IDCs aboard submarines in several curriculum areas. These results suggested that additional tailoring of

the IDC curriculum, dependent on assigned ship-type, may be warranted. With regard to perceptions of training emphasis, none of the curriculum areas were seen as grossly inadequate. Aggregate results, however, indicated that shipboard IDCs felt there was room for improvement in training in the classroom and especially in practical applications. Particular emphasis should be placed on examining the training emphasis in topical areas pertaining to shipboard Medical Department management, dental fundamentals, and Medevac procedures.

87-34 Steele, TP

**TASKS OF THE SHIPBOARD INDEPENDENT DUTY HOSPITAL CORPSMAN: TASK TRAINING ADEQUACY AND PERFORMANCE FREQUENCY**

(Center Publication, AD# A189-906)

Work Unit: M0106.001-0008

Abstract: Findings from this Navy-wide study of shipboard Independent Duty Corpsman (IDCs) indicated that, in general, fleet-experienced IDCs perceived their formal Navy preparation for serving as shipboard senior medical department representatives (SMDRs) as adequate. Exceptions for both ship and submarine SMDRs were ratings of inadequate training in the following areas: Psychological disorders/Conditions, Podiatric Conditions, Advanced Emergency Care, Advanced Nursing Care, and Nonmedical File Maintenance. Although statistically significant differences in training adequacy emerged between surface ship and submarine SMDRs and between first tour SMDRs and more experienced SMDRs on several categories of tasks, it was concluded that these differences were not large enough to be of practical import. Attention could more profitably be placed on reviewing requirements in the task categories identified above as inadequately addressed in training.

87-6 Cronan, TA & TL Conway

**IS THE NAVY ATTRACTING OR CREATING SMOKERS?**

Military Medicine, 1988, 153(4), 175-178 (Center Publication, AD# A183-016)

Work Unit: Naval Military Personnel Command Reimbursable

Abstract: This study examined whether the Navy is attracting a high rate of smokers or whether individuals start smoking after they join the Navy. Demographic and smoking information was provided by new recruits and by men stationed aboard ships. Results indicated that 27.6% of recruits were current smokers, whereas 49.8% of shipboard men were current smokers. Recruits were almost twice as likely never to have smoked as the shipboard sample (63.2% vs. 32.1%, respectively). Smokers tended to be older Caucasian men. However, even in the youngest group of men (17- to 19-year olds), there were over twice as many smokers among the shipboard sample. Among those who smoked, shipboard men smoked more cigarettes than incoming recruits. These findings indicate that the Navy is not attracting a higher than expected percentage of smokers from the U.S population. Rather, many men start to smoke after they enter the Navy. These findings suggest that the Navy should implement strong smoking prevention programs.

87-38 Cronan, TA; LK Hervig, & TL Conway

**EVALUATION OF SMOKING INTERVENTIONS IN RECRUIT TRAINING**

Military Medicine (in press)

(Center Publication, AD# A191-940)

Work Unit: Naval Military Personnel Command Reimbursable

Abstract: Smoking prevention and cessation programs were implemented and evaluated in recruit training. Four groups of incoming recruits were compared: an education group, a no-smoking group, a health risk appraisal feedback group, and a no-treatment control group. Recruits in the education and no-smoking groups were less likely to start smoking for the first time during recruit training than recruits in the control group. There were no differences between the intervention groups and the control group in the number of recruits who had been former smokers but started smoking again. The education group had fewer smokers stop smoking than the control group. The one-year follow-up evaluation needs to be conducted before the long-term effects of these programs can be determined.

87-37 Conway, TL

**BEHAVIORAL, PSYCHOLOGICAL, AND DEMOGRAPHIC PREDICTORS OF PHYSICAL FITNESS**

(Center Publication, AD# A192-697)

Work Unit: Naval Military Personnel Command Reimbursable

Abstract: Understanding the factors that relate to physical fitness could help people improve their fitness levels. This study examined the associations between a variety of behavioral, psychological, and background factors and four components of physical fitness. After controlling for exercise activities, physical fitness was positively associated with "wellness" behaviors, believing in the importance of physical fitness, expecting to reach/maintain ideal weight, being athletic as a youth, and years of schooling; fitness was negatively associated with tobacco use, "preventive/avoidance" behaviors, age, and ever being overweight. Identifying such factors may help to structure better fitness programs tailored to the individual.

88-1 Nice, DS & LT Conway

**EXERCISE PATTERNS IN THE U.S. NAVY**

(Center Publication, AD# A192-689)

Work Unit: Naval Military Personnel Command Reimbursable

Abstract: Objectives of this study were to (1) document the exercise activities of U.S. Navy personnel and (2) identify sociodemographic and environmental factors associated with exercise intensity. Although six percent of the sample were completely inactive, most individuals reported participating in several exercise activities. Leading activities included walking, running, calisthenics, weight lifting, swimming, and bicycling. While the preference for particular activities was generally similar between the U.S. Navy sample and previous national survey data, the intensity of the exercise activity was higher among Navy personnel. Exercise intensity was significantly ( $R = .51$ ) predicted by perceived importance of being fit, childhood athletic experience, age, and smoking behavior--the latter two in a negative direction.

88-19 Nice, DS & BK Kilbourne  
**DEMOGRAPHIC AND REGIONAL DETERMINANTS OF PARTICIPATION IN SPECIFIC EXERCISE  
ACTIVITIES** Work Unit: Naval Military Personnel Command Reimbursable  
(Center Publication, AD# A198-925)

Abstract: The present study collected questionnaire information from a Navy-wide, random sample of 3,038 active duty personnel to identify demographic determinants of the adoption and level of participation in 10 common exercise activities. Results indicated that older people less frequently adopted more strenuous activities. Men were more likely than women to play basketball and jog, while women were more likely to engage in aerobics. Blacks were more likely to play basketball and to do aerobics. Among those people who participated in a given activity, older people participated in strenuous activities to a lesser degree. Blacks played more basketball and Hispanics played more baseball. It was argued that the most efficient health promotion programs would be those that promoted the group-specific activities consistent with normative group preference patterns.

87-14 Conway, TL; LK Hervig, & RR Vickers Jr.  
**NUTRITION KNOWLEDGE AMONG NAVY RECRUITS** (Center Publication, AD# A185-186)  
Journal of the American Dietetic Association (in press)  
Work Unit: Naval Military Personnel Command Reimbursable

Abstract: Objectives of this study were to determine deficits in recruits' nutrition knowledge, to identify recruits with above average need for nutrition education, and to compare recruits' nutrition knowledge with that of typical U.S. school students. Forty percent of recruits answered half or more of 36 nutrition questions incorrectly. Only 2% answered 90% of the questions correctly. Questions answered incorrectly by more than 50% of recruits involved: (1) how one assesses nutrient needs and whether those needs are being met; (2) the four major food groups and recommended servings; and (3) effects of alcohol and drugs on nutritional status. Recruits who received higher grades in high school, were in less trouble in high school, were older, and were Caucasian had higher nutrition knowledge. Findings indicate that nutrition education is indeed called for, although recruits are not particularly lacking in nutrition knowledge relative to U.S. school students.

87-25 Peterson, KA; TA Cronan, & TL Conway  
**PREDICTION OF PHYSICAL FITNESS: ESTIMATED PERCENT BODY FAT USING BODY CIRCUM-  
FERENCES VERSUS WEIGHT-HEIGHT MEASURES** (Center Publication, AD# A190-233)  
Aviation, Space, and Environmental Medicine (in press)  
Work Unit: Naval Military Personnel Command Reimbursable

Abstract: This study compared several weight-height indices with an estimate of percent body fat based on a few circumference measurements. The utility of alternative measures was assessed by comparing the strength of their associations with four measures of physical fitness. For men, estimated percent body fat measures predicted all components of physical fitness significantly better than any of the weight-height indices. For women, estimated percent body fat was a significantly better predictor of two of the four fitness measures. The pattern of associations between physical fitness and both the estimated percent body fat and the weight-height measures was similar for men and women; however, the correlations between the

percent fat and the fitness measures were stronger for men than for women. These findings suggest that the Navy's circumference procedure for estimating fatness provides a better screen for physical fitness testing than would any of the common weight-height indices.

87-28 Dutton, LJ & TL Conway

**DIETARY FACTORS RELATED TO PHYSICAL FITNESS** (Center Publication, AD# A190-272  
American Journal of Health Promotion 1988 (Fall, in press))

Work Unit: Naval Military Personnel Command Reimbursable

Abstract: This study examined the relationship between habitual dietary practices and performance on the Navy's physical readiness test. Participants were 1,013 men stationed aboard nine Navy ships. Results indicated that the participants tend to skip breakfast, ingest moderate amounts of caffeine, and favor a high-fat, low-fiber diet. Fitness scores were associated with a number of dietary variables, including caffeine intake, between-meal snacking, and overeating (all negatively related to fitness) and having a general "nutrition orientation" (positively related to fitness). Diet was a significant predictor of fitness, even after controlling for age, exercise, and smoking.

87-12 Hoiberg, AL

**HEALTH RISKS OF U.S. NAVY DIVING**

(Center Publication, AD# A190-344)

Work Unit: M0099.PN.0C1-0008

Abstract: This report summarizes eight studies that examined the short- and long-term health effects associated with being a U.S. Navy diver. Results showed that enlisted male divers ( $n = 11,584$ ) had significantly higher hospitalization rates than controls for environmentally induced disorders as well as joint disorders, respiratory diseases, and deflected nasal septum at ages 23-28. Diving officers had higher hospitalization rates than other officers for joint and neurological disorders. Other health risks included musculoskeletal disorders among UDT/SEAL divers and respiratory and symptomatic conditions among master divers. Decompression sickness aftereffects consisted of symptoms and headache and artery or vein disorders. Also recorded during 1968-1979 were three deaths from air embolism, and three divers suffered ear and hearing problems because of a barotrauma incident. Inexperienced enlisted divers and officers as well as nongraduates from training were at increased risk of being hospitalized for stress-related conditions (e.g., alcohol or drug abuse).

87-40 Hoiberg, A

**INFECTIOUS DISEASE TRENDS IN THE U.S. NAVY, 1966-1984**

(Center Publication, AD# A200-571)

Work Unit: MR041.01.07-0001

Abstract: The purposes were (1) to analyze trends in infectious disease hospitalization rates from among U.S. Navy enlistees and (2) to identify high risk groups for infectious disease by age, sex, race, and duty assignment. Trend analysis results showed that hospitalization rates decreased from 1966-1984, especially for diarrheal disease, pneumonia, rubella, and respiratory infections. Caucasian women

had significantly higher rates than men for several specific diseases and the infective, respiratory, and digestive diagnostic categories. Rates of black women did not differ significantly from those of black men. Ages 17-18 or the recruit training phase were at highest risk for almost all infectious diseases. Decreasing hospitalization rates reflected the influence of changes in treatment modalities, Navy personnel, and medical care policies.

**88-22 Hoiberg, AL**

**A COST CONTAINMENT CASE FOR OCCUPATIONAL ILLNESS AND INJURY CASE MANAGEMENT**  
(Center Publication, AD# A199-920) Work Unit: Public Health Service Reimbursable

Abstract: This review paper provides a brief description of workers' compensation and examines the literature on cost containment, case management, prevention, and intervention. Also described is a process developed by the Public Health Service (the Occupational Illness and Injury Contingency Management Process or OPTICOMAP) to enhance the likelihood of returning the occupationally injured or ill employee to work and to reduce the associated medical and compensation costs. Effective case management involves the coordinated efforts of six participants, especially the attending physician, case manager, and line supervisor. Timeliness in managing each case, adhering to the return-to-work plan, and addressing the biopsychosocial needs of the injured worker are emphasized in OPTICOMAP.

**88-24 Hoiberg, AL**

**EPIDEMIOLOGIC RESEARCH OF OCCUPATIONAL ILLNESS AND INJURY IN THE NATIONAL OCEAN SERVICE WAGE MARINE WORK FORCE**  
(Center Publication, AD# A199-856) Work Unit: Public Health Service Reimbursable

Abstract: The purpose was to identify differences in occupational illness and injury incidence (100 cases) between coastal basin operations of the National Ocean Service during 1986. The most frequently occurring injuries, primarily caused from falling on icy or wet decks, involved the back, ankle, knee, wrists, and finger. Engine department personnel in the Atlantic basin had the highest percentages of hearing loss and injuries, followed by deck workers on Pacific basin vessels. Incidence rates varied considerably across ships. Time lost from work ranged from 0 to 7 days for the majority of cases. Back injuries and hearing loss accounted for the highest costs. No differences between basins were noted for the variables of motivation to return to work, restoration to full potential, state of mental well-being, and surgical and treatment effectiveness. Recommendations included implementing safety training, health promotion, and intervention programs.

**88-18 Chesson, CV & SM Hilton**

**THE EPIDEMIOLOGY OF BACK-RELATED HOSPITALIZATIONS AMONG U.S. NAVY PERSONNEL**  
(Center Publication, AD# A200-089)  
Work Unit: Naval Military Personnel Command Reimbursable

Abstract: This study investigated the incidence of inpatient back problems for active duty, Navy enlisted personnel during 1974-1983. There were 13,109 individuals with a first hospitalization for a back problem during the decade, and the most frequent diagnosis was Vertebrogenic Pain Syndrome (36.5%). Individuals

with Navy service of less than one year, over 20 years, or in the 17-19 age group were most likely to be hospitalized. Those occupations most likely to be associated with back problems were health care, weapons control, seaman-striker, general seamanship, and master-at-arms. The results are discussed in terms of greatest-risk groups and back-problem prevention.

**88-20 Kilbourne, BK; CV Chesson, & SM Hilton**  
**MEDICAL AND NONMEDICAL PREDICTORS OF DISABILITY DISCHARGE DISPOSITION FOR NAVY PERSONNEL WITH A BACK PROBLEM: A FOCUS ON ENTITLEMENT**  
(Center Publication, AD# A200-088)  
Work Unit: Naval Military Personnel Command Reimbursable

Abstract: The purpose of this study was to examine the type of medical disability awarded to active duty, Navy enlisted personnel with a back problem, in relation to length of service, paygrade, severity of the back problem, and secondary diagnosis. Results indicated that medical discharge disposition was related primarily to length of service and severity of the back problem and was consistent with PE Board regulations. These findings have implications for understanding attributions of entitlement and total costs of a medical problem.

**88-26 Kilbourne, BK; CV Chesson, & SM Hilton**  
**PREDICTING SHORT VERSUS LONG HOSPITAL STAY FOR NAVY PERSONNEL WITH A BACK PROBLEM**  
Work Unit: Naval Military Personnel Command Reimbursable  
(Center Publication, AD# A200-574)

Abstract: The purpose of the present study was to examine the relationship between medical and nonmedical factors (i.e., severity of back problem, year of hospitalization, and type of admission) and short versus long hospital stay for Navy personnel with a back problem. Results indicated that a small percentage of back-problem cases accounted for a disproportionate number of total hospital days, and that short versus long hospital stay related to severity of back problem, year of hospitalization, and type of admission (i.e., direct versus transfer). Hospital policy impacts considerably on the length of hospital stay of active duty, Navy personnel with back problems.

**87-1 Vickers, RR Jr.; LK Hervig, MT Wallace, RE Poland, & RT Rubin**  
**PSYCHOLOGICAL CORRELATES OF CORTISOL EXCRETION IN NORMAL INDIVIDUALS UNDER STRESS**  
(Center Publication, AD# A183-065) Work Unit MR041.01.07-0002

Abstract: A moderately strong association was demonstrated between negative affect, primarily depressed mood, and salivary cortisol in a sample of Marine Corps recruits during a high stress period of basic training. Positive affect, perceived stress, and personality were shown to be much weaker predictors of salivary cortisol.

Department: Behavioral Psychopharmacology, Code 50

Head: Cheryl L. Spinweber, Ph.D.

During the Fall of 1988, the Behavioral Psychopharmacology Department completed the investigation of caffeine and benzodiazepines on performance, daytime sleepiness, and memory loss. This was the first study conducted by the Naval Health Research center to look at caffeine effects. Dr. Spinweber, Dr. Laverne C. Johnson, and Mr. Steven Gomez will be principal authors of research papers resulting from this study. Department staff who collected the technical data were EEG Technicians Mrs. Cora L. Irwin and Arlene Nadolski.

Data analysis on the international study of jet lag has been completed by this lab. The project involved NHRC collaboration with NASA-Ames Research Center, British Airways, and Japan Airlines. The data were collected from airline flight crews during the layovers of the polar-route flights between Japan and London, as well as during stop overs in Anchorage, Alaska.

During the month of February 1988, this Department moved to the new Hospital in Balboa Park, San Diego. Modifications were completed by late summer.

Pilot work on the study of Caffeine and Prophylactic Napping was initiated in the fall of 88. Specifically, this study will investigate caffeine effects on performance of subjects during a 48-hour period of continuous operation.

Publications from January 1987 to September 1988 include:

**87-4 Spinweber, CL**  
**L-TRYPTOPHAN, SLEEP AND PERFORMANCE**  
In: Proceedings, NATO Seminar, Defense Research Group, Seminar on Sleep and its Application for the Military, 16-17 March 1987, Lyons, France (in press)  
(Center Publication, AD# A181-941) Work Unit: MR041.01.003-0161

Abstract: Planning for adequate rest and predicting the consequences of inadequate sleep or cumulative sleep loss should be an important consideration in mission logistics. This report discusses using "non-sedating" sleeping aids such as amino acid and l-tryptophan to effectively maximize sleep in operational environments. The results suggest that l-tryptophan is adequately effective to be used in the field to alleviate jet lag. L-tryptophan, in doses ranging from 2-4 grams, is the agent of choice since its sleep-promoting effects are readily reversible and its administration is not associated with an impairment window.

**88-13 Gillin, JC; CL Spinweber, & LC Johnson**  
**REBOUND INSOMNIA: A CRITICAL REVIEW**  
(Center Publication) Work Unit: MR041.01.003-0161

Abstract: A review of the literature reveals that "rebound insomnia," a worsening of sleep compared with pretreatment levels, is likely for the first 1-2 nights following nightly administration of triazolam (0.5 mg and possibly 0.25 mg) for more than several nights but unlikely following administration of either temazepam (15 or 30 mg) or flurazepam (15 or 30 mg). In six studies, using polygraphically recorded sleep, the average reduction of total sleep time on the



first night of withdrawal from triazolam (0.5 mg) compared to baseline was 24.5% or about 85 minutes less sleep. The possibility of a mild, delayed withdrawal insomnia at 4-10 nights after flurazepam 30 mg for 30 nights cannot be dismissed. The risk of rebound insomnia associated with triazolam can be reduced by tapering the dose over the first four nights of withdrawal.

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## Department: Ergonomics, Code 60

Head: Paul Naitoh, Ph.D.

The major accomplishments of the Ergonomics Department are reflected in two divisions. LT David Kobus, head of the Cognitive Psychophysiology Division, has directed his research application to the operational communities to assist in Fleet operational readiness. His three work units include (1) neurometrics, which research has been redirected from personnel selection to performance assessment; (2) selective attention, which investigates electrophysiological techniques to monitor operator attention, and (3) Low Level White Lighting (LLWL), which investigated the feasibility of using LLW lighting as a replacement for blue/red lighting on surface ships.

The second division, Performance Enhancement, is headed by Dr. Carl Englund. Three research projects carried out under this division include (1) the Chemical Defense Project, an Army funded Tri-Service Program which investigates the effects of heavy physical work, sleep loss, and individual protective ensembles on cognitive performance; (2) the Naval Sustained Operations Research Program, and (3) Navy Shipboard Helmet study.

This Department has been actively involved in the sustained operation research at the Defence and Civil Institute of the Environmental Medicine (DCIEM) in Canada through the aegis of the Technical Cooperation Program at Walter Reed Army Institute of Research, Washington, DC through the working relationship fostered by participation in Department of Defense Human Factors Technical Advisory Group and at the Veterans Administration Hospital in San Diego.

Dr. Englund furnished basic support for the initiation and funding of the NSAP proposal. His support has been in the logistics associated with securing equipment and data analysis from material collected on site.

Publications from January 1987 to September 1988 include:

- 87-2 Kobus, DA; MJ Beeler, & K Stashower**  
**ELECTROPHYSIOLOGICAL EFFECTS OF EXPERIENCE DURING AN AUDITORY TASK**  
(Center Publication, AD# A183-065) Work Unit: MR00001.01-6037

Abstract: Using event-related potentials (ERPs) as a barometer of cognitive electrical activity, this study found a significantly different distribution of brain electrical activity in experienced sonar operators as opposed to inexperienced sonar operators. The experienced subjects displayed frontally dominant amplitude for the N1-P2 and P2 components. The inexperienced subjects displayed a parietally dominant amplitude for the N1-P2 and P2 components that is consistent with the ERP literature.

- 87-15 Kobus, DA; LJ Lewandowski & MM Flood**  
**COGNITIVE AND PERSONALITY CHARACTERISTICS OF EXPERIENCED AND INEXPERIENCED SONAR OPERATORS**  
(Center Publication, AD# A189-304) Work Unit: MR00001.01-6037

Abstract: By means of a test battery that included cognitive and personality measures, it was found that experienced sonar operators were significantly stronger



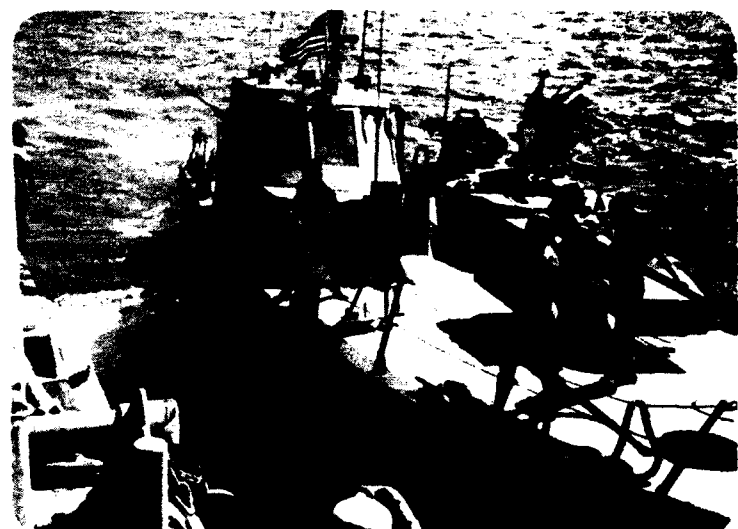
SUSTAINED OPERATIONS RESEARCH

Heat Stress Project  
in the Persian Gulf,

Sep-Oct 88.

Navy Minesweepers

Ship platforms in which human  
performance is assessed during  
heat stress/SUSOPS research  
project.



Patrol "gun" boat



LT Kobus



LCDR Banta

Aboard a minesweeper in the Persian Gulf.

than less experienced sonar operators in visual-perceptual skills, high in positive life experiences, and low in negative life experiences and anxiety. Less experienced sonar operators showed high anxiety scores. Classification of subjects into groups with personality variables using discriminant analysis, reached a 75% accuracy. The classification of subjects using cognitive variables was not as successful.

**87-29 Kobus, DA, LJ Lewandowski & MM Flood**  
**THE SPATIAL MEMORY AND ROTATION TASK: A LOW-FIDELITY SIMULATION OF VISUAL SONAR OPERATION**  
(Center Publication) Work Unit: MR00001.01-6037

Abstract: The Spatial Memory and Rotation Task (SMART), in conjunction with other cognitive tests, was used to assess sonarmen of different levels of experience. This study found no significant difference in group performance, and classification of subjects into groups was less than 65% accurate. Performance scores on the SMART was moderately correlated with general intelligence, attention capacity, memory, and perceptual organization.

**87-30 Hord, DJ & L Merrill**  
**ENDOGENOUS ERP COMPONENTS ASSOCIATED WITH PERFORMANCE IN SONAR OPERATORS: II. VALIDATION OF A PERFORMANCE PREDICTION EQUATION**  
(Center Publication, AD# A190-232) Work Unit: MM33P30.005-6004

Abstract: A significant relationship was found between event-related potential component parameters and sonarmen selectee performance on a sonar-type task. A prediction equation derived from the study data and its subsequent application accounted for approximately six percent of the variance in performance.

**88-30 Kobus, DA & K Stashower**  
**EFFECTS OF EXPERIENCE AND TASK DIFFICULTY ON EVENT-RELATED POTENTIALS**  
Work Unit: MM33P30.005-6004

Abstract: The current study is built on earlier work at this laboratory. We hypothesize that increased task difficulty would produce an increase in the differences we observed between experienced and inexperienced subjects, particularly for the P300 component. A significant 3-way interaction for the P300 showed that amplitudes for both groups were greater for the attended condition at both the Fz and Pz electrode sites. Attended trial amplitude values for the experienced group at the Fz electrode site were greater than for the inexperienced group, while amplitude values at the Pz site were greater for the inexperienced group. These findings provide additional support for the hypothesis that a redistribution of electrical activity of the brain may be indicative of a shift from controlled to automatic processing.

**88-29 Lewandowski, LJ; DA Kobus, MM Flood, & WJ Hoyer**  
**THE EFFECTS OF AGE AND EXPERIENCE ON SONAR PERFORMANCE**  
(Center Publication) Work Unit: MM33P30.005-6004

Abstract: Expert sonarmen over 35 years of age and those under 25 years of age were tested with the WAIS-R IQ test, a battery of visual perceptual measures, and a visual signal detection task of varying levels difficulty. The older experts

performed as well as young experts and better than older controls on the moderately difficult signal detection task, however, the older experts performed comparatively poorer on a speeded visual discrimination task. This apparent age-related loss of general cognitive or perceptual-motor functions seemed to have little or no net effect on the highly practiced signal detection performance of the older experts. Overall, the experts, as a group, were more accurate and slower in performance on the Matching Familiar Figure Test than were the controls.

88-2 Kobus, DA & SM Luria

**AT SEA EVALUATION OF LOW LEVEL WHITE LIGHTING ON SURFACE SHIPS**

(Center Publication, AD# A191-942)

Work Unit: M0096.002-6001

Abstract: Three ships participated in an at-sea evaluation of low level white (LLW) lighting as a replacement for the standard red or blue) lighting in the Combat Information Center (CIC) and bridge areas. Results showed that the subjects on two of the three ships stated a preference for the LLW lighting in the CIC area. Subjects who worked under the LLW were evaluated as being less tired, had fewer headaches, and had an increased ability to color-code information. LLW was found to produce less CRT display glare than standard lighting.

87-9 Ryman, DH; P Naitoh, & CE Englund

**PERCEIVED EXERTION UNDER CONDITIONS OF SUSTAINED WORK AND SLEEP LOSS**

(Center Publication, AD# A182-148)

Work Unit: MF58.528.01B-0003

Work and Stress (in press)

Abstract: Two studies showed an increase of perceived exertion during each of two days of treadmill walking, with a drop after nap or rest indicating recovery between the two days (end of day one to start of day two). Perceived exertion was higher the second day in each study. Perceived exertion increased during the stages (percent grade changes) of three maximal treadmill tests, but did not differ between these three tests (pre-study, post-exercise-sleep loss, post-recovery). Perceived exertion was significantly correlated with heart rate, speed, and elevation during the first day, but not the second day. Perceived exertion was positively correlated with sleep, fatigue and negative mood scales and negatively correlated with vigor only at a period post half way through first day in both studies, and at no period in the second day.

87-20 Ryman, DH; P Naitoh, CE Englund, & SG Genser

**COMPUTER RESPONSE TIME MEASUREMENTS OF MOOD, FATIGUE AND SYMPTOM SCALE ITEMS: IMPLICATIONS FOR SCALE RESPONSE TIME USES**

(Center Publication, AD# A186-093)

Work Unit: MM58.528.02-0001

Computers in Human Behavior, 1988, 4, 95-109

Abstract: Response times (RT) to computer administered questionnaire scales were faster on the second day of a two-day continuous operation, even though the negative scales had increased and positive scales decreased. There was no difference between scale RT between exercising and non-exercising groups. There was no relationship between reading measures (speed, grade level) and scale RT, or between motor reaction time and scale RT. Fatigue scale RT correlated with level of fatigue indicated on this scale (longer RT with more fatigue). Vigor scale RT was negatively

correlated with that scale level on the first day showing that intensity and congruence of mood could be indicated by RT (faster RT with feelings of vigor). More complex scaling methods took longer than simpler methods (Guttman longest, Likert moderately long, dichotomous quickest). RT to scales was shown to be useful; in reflecting scale complexity, and as a theoretically useful measure.

87-17 Naitoh, P; CE Englund, & DH Ryman  
**SUSTAINED OPERATIONS: RESEARCH RESULTS**  
(Center Publication, AD# A191-794) Work Unit: Army 3M463764.B995.AB.087-6

Abstract: The effects of a laboratory simulated reconnaissance operation on behavioral and physiological performance were assessed in seven separate sustained operations (SUSOP) studies involving a total of 112 U.S Marine Corps volunteers. The results suggested that (1) starting time of a mission should be chosen to avoid extending a continuous work period into early morning hours of circadian trough, (2) a 3-4 hour nap is not long enough to allow recovery from fatigue of a 20-hour continuous work, (3) a physical workload of 30% or greater VO2Max will slow down reaction time post physical work period, and (4) time-of-nap is not as important as the duration of the nap.

87-21 Naitoh, P & RG Angus  
**NAPPING AND HUMAN FUNCTIONING DURING PROLONGED WORK**  
In: D. Dinges & R. Broughton (Eds.), Napping: Biological, Psychological, and Medical Aspects (in press)  
(Center Publication, AD# A190-228) Work Unit: Army 3M463764 B995AB.087-06

Abstract. Sleep management suggests that recovery from fatigue and sleepiness during a prolonged work period can be accomplished by short or ultra-short sleep (naps) taken during a prolonged work period. In this paper, naps' power as a counter-degradation measure are described first through the literature review, and then through critical evaluation of studies conducted at the Defence and Civil Institute of Environmental Medicine, Canada and Naval Health Research Center. The need for research and recommendation about ultra-short naps is discussed in the context of refining sleep management techniques applied in the field work environments.

87-10 Englund, CE; DL Reeves, CA Shingledecker, DR Thorne, KP Wilson, & FW Hegge  
**UNIFIED TRI-SERVICE COGNITIVE PERFORMANCE ASSESSMENT BATTERY (UTC-PAB)**  
(Center Publication, AD# A182-480) Work Unit: Army 3M463764 B995AB.087-06

Abstract: The Unified Tri-service Cognitive Performance Assessment Battery (UTC-PAB) represents the primary metric for a Level II evaluation of cognitive performance in the JWGD3 MILPERF chemical defense biomedical drug screening program. Emphasis for UTC-PAB development has been on the standardization of test batteries across participating laboratories with respect to content, computer-based administration test scoring, and data formatting. This effort has produced a 25-test UTC-PAB that represents the consolidation and unification of independent developments by the tri-service membership. Test selection was based upon established test validity, relevance to military performance, sensitivity to effects of hostile environments and sustained operations. Information processing, decision-making, perception, and mental workload capacity are among the processes and abilities addressed in the Battery.

87-39 Kelly, TL; JE Yeager, AA Sucec, CE Englund, & DA Smith  
**THE EFFECT OF THE M17A2 GAS MASK ON SPIROMETRY VALUES IN HEALTHY SUBJECTS**  
(Center Publication, AD# A191-941) Work Unit: Army 3M463764 B995AB.087-06

Abstract: The M17A2 gas mask was evaluated on Marine volunteers (58 males, 8 females) using standard pulmonary function test measurements. Subjects were randomly assigned to be tested in the mask or the control condition first while performing forced vital capacity (FVC) and maximum voluntary ventilation (MVV) maneuvers. The mask had significant effect on almost all the volumes and flows measured. Mean FVC and the forced expiratory volume in 1 second (FEV1) each dropped significantly. The ratio of the forced expiratory volume in .5 second dropped, but other proportional relationships were not changed. Higher baseline flows were correlated with greater drops in flow with the mask. The mask also decreased MVV by 15%. Females dropped their FEV1s when the mask was worn by more than males. Smokers showed less effects from the mask than non-smokers.

88-5 Kelly, TL; DH Ryman, AA Sucec, JE Yeager, CE Englund, & DA Smith  
**THE EFFECTS OF THE M17A1 GAS MASK ON REACTION TIMES AND ACCURACY UNDER NON-EXERCISE CONDITIONS**  
(Center Publication, AD# A192-528) Work Unit: 3M463764.B995.AB.087-6

Abstract: Volunteer U. S. Marine Corps personnel (24 males and 8 females) participated in a randomized crossover design experiment studying effects of the M17A2 gas mask on speed and accuracy of performance in a series of non-exercise computer controlled tasks. A test of simple reaction time (SRT) showed small decrements in the speed of both the mean and the fastest reaction times when the mask was worn. A task requiring rapidly alternating between pressing two buttons showed a small decrease in the number of presses achieved per session. A more complex (four choice) reaction time task, visual vigilance, and logical reasoning showed no changes in speed or accuracy when the mask was worn. When the male and female subjects data were analyzed separately the SRT changes were only significant among females, while the button press changes were only significant among males. Females also showed a decrement in the slowest responses in the complex reaction time task.



Chemical Defense  
Sustained Operations Study

**88-6 Kelly, TL; CE Englund, DH Ryman, JE Yeager, & AA Sucec**  
**THE EFFECTS OF 12 HOURS OF MOPP IV GEAR ON COGNITIVE PERFORMANCE UNDER**  
**NON-EXERCISE CONDITIONS**  
(Center Publication, AD# A192-527) Work Unit: 3M463764.B995.AB.087-6

Abstract: Twenty-four volunteer male Marines participated in a randomized crossover design experiment involving performance of computer controlled tasks during two 12-hour days, one day in complete chemical protective gear, and one without. The gear slowed simple reaction times, four choice (FOUR) response times, the slowest button presses during rapid alternation between 2 buttons, and logical reasoning. It decreased percent correct on the FOUR task and on a vigilance task. All except the button press rate change were significant at 4 hours. A previous study involving two 4-hour days with and without the M17A2 mask alone showed changes only in simple reaction time and tapping rate. Therefore, the changes on the FOUR task, logical reasoning, and vigilance must be attributed to other aspects of the gear, most likely the gloves.

**88-11 Ryman, DH; TL Kelly, CE Englund, P Naitoh, & M Sinclair**  
**PSYCHOLOGICAL AND PHYSIOLOGICAL EFFECTS OF WEARING A GAS MASK OR PROTECTIVE**  
**SUIT UNDER NON-EXERCISING CONDITIONS**  
(Center Publication, AD# A194-193) Work Unit: 3M463764.B995.AB.087-6

Abstract: Comparisons of non-exercising physiological vital sign measures and psychological scales during four hours with and without the M17A2 Mask, and 12 hours with and without the MOPP4 chemical protective suit showed: 1) minor fatigue-related symptoms and heart rate increase for female subjects in the mask; 2) increase in fatigue symptoms, negative mood, and sleepiness with decreases in vigor and positive mood in the MOPP4 suit; 3) heart rate and core temperature elevations increased in the suit condition while grip strength decreased. All of these differences, except positive mood, were significant within the first four hours. The increased symptoms, sleepiness and heart rate were significant in the first hour. These changes were not to a degree (level) to indicate that wearing this gear in non-exercising conditions would seriously impair performance.

**88-7 Kelly, TL; AA Sucec, & CE Englund**  
**ANNOTATED BIBLIOGRAPHY FOR GAS MASK AND**  
**CHEMICAL DEFENSE GEAR RELATED PAPERS**  
(Center Publication, AD# A192-461)  
Work Unit: Army 3M463764 B995AB.087-06

Abstract: This is an annotated bibliography of papers which relate to the characteristics and effects of gas masks and other chemical defense gear. Psychological, physiological, and cognitive performance effects are included.



Stress reactivity Study



87-11 **Buono, MJ & JE Yeager**

**INCREASES IN ALDOSTERONE PRECEDE THOSE OF CORTISOL DURING GRADED EXERCISE**

(Center Publication, AD# A181-983) Work Unit: Army #3M463764 B995AB.087-06

**Abstract:** This study was to determine the intensity threshold needed to elicit increases in plasma aldosterone and cortisol during graded exercise in humans. Seven male volunteers performed a maximal oxygen uptake ( $VO_{2max}$ ) test on a cycle ergometer. Plasma aldosterone, cortisol, angiotensin II, ACTH, and potassium were measured at rest and at each increment of the exercise test. Aldosterone significantly increased above resting at workloads 60%  $VO_{2max}$ . Cortisol on the other hand, was significantly elevated only at exhaustion (i.e., 100%  $VO_{2max}$ ). Both potassium and angiotensin II were significantly correlated with aldosterone. Thus increases in aldosterone precede those in cortisol, and these increases are associated with changes in potassium and angiotensin II which accompany graded exercise.

87-7 **Buono, MJ; JE Yeager, AA, & JA Hodgdon**

**PLASMA ADRENOCORTICOTROPIN AND CORTISOL RESPONSES TO SHORT-TERM, HIGH-**

**INTENSITY EXERCISE IN HUMANS** Work Unit: 63706N M0096.PN.001-1050

Journal of Applied Physiology, 1986, 61(4), 1337-1339

**Abstract:** Short-term, high-intensity exercise results in an increase in plasma cortisol levels. Unfortunately, adrenocorticotropin (ACTH) was not measured in prior work. This study examined plasma cortisol and ACTH levels in 6 subjects following a short-term (1 min.), high-intensity (120%  $VO_{2max}$ ) bout of exercise on a cycle ergometer. Blood samples were collected at rest, immediately post exercise, and at 5, 15, and 30 minutes post exercise. Plasma ACTH levels increased from 2.2 pmol/L at rest to 6.2 immediately following exercise. Similarly, plasma cortisol increased from 0.4 pmol/L at rest to 0.52 at 15 min. post exercise. These differences were statistically significant and show that short-term high-intensity exercise results in increased cortisol and ACTH levels. The temporal sequence of the changes suggests the cortisol increase results from the elevation in ACTH.



Shipboard Helmet Ergonomics Study

## Department: Applied Physiology, Code 70

Head: James A. Hodgdon, Ph.D.

There have been many changes for this Department since the last report. The department's name was changed from Work Physiology to Applied Physiology to reflect an increase in the scope of our mission. New personnel joining the Department include: Research psychologists, Dr. Ross Vickers and Ms. Linda Hervig; a Medical Officer, LCDR Craig Bischoff; an Aviation Physiologist, LCDR Glenn Armstrong; research physiologists, LCDR Dennis Kelleher, Mr. Christopher Leake, and Ms. Elizabeth Harper; and Ms. Marilyn Reddeg joined the department as our new editorial assistant. The Department bade farewell to LT James Norton, who rotated to a position with the Aerospace Physiology Training Unit at NAS Miramar, and Ms. Linda Sikes, who left to fill a position with the education counselling department at Naval Station, San Diego. LCDR Armstrong will be departing at the end of November to head the Aerospace Physiology Training Unit at NAS Miramar.

The department acquired a research program dealing with the identification of risk factors for infectious disease. Products of this program include a self-report measure of upper respiratory infection (URI) appropriate for Navy populations, and demonstration that health history and acute psychological reactions to stress predict URI in recruits. Work this year has focused on continuing studies of URI risk in Navy recruits, determination of URI risk profile in BUD/S training, and determination of risk profiles of Marine Corps personnel undergoing cold weather training.

A research program to define the nature and extent of degraded performance troops during cold weather operations was begun in FY 1988. The intended research product is a force degradation module for incorporation into existing combat simulation models. As part of this program, a research facility was established at the U.S. Marine Corps Mountain Warfare Training Center, at Pickel Meadows, California. An initial study was conducted there to pilot test our measurement systems. In addition, a cooperative agreement was entered into with the Norwegian Army for the joint conduct of studies of force degradation during Cold Weather Operations. Under a work request from this program, Lawrence Livermore National Laboratory is conducting a review of and hosting a joint service meeting dealing with existing combat models with special reference to their suitability for the incorporation of human performance information.

Much of the work in the Applied Physical Department focused on projects relating to the Naval Special Warfare Community. We have completed a project to acquire descriptions of SEAL Delivery Vehicle operations for use in estimation of the physical demands of such operations was completed, and we are expanding the collection of mission descriptions to include SEAL teams. We have completed the data collection for a profile of Special Warfare personnel which will be used to compare personal attributes with calculated mission demands. We are exploring the efficacy of several hydration and dietary routines for use with Special Warfare personnel during missions, and testing a set of biochemical markers to use as indicators of musculo-skeletal stress. Our projects with the Naval Special Warfare Training

Center, San Diego have focused on validation and extension of the trainee screening tools developed last year. Data collection has been completed for this work, and we are finalizing our results.

Our work in the area of physical requirements for performance of Navy shipboard tasks was closed out this year with the production of a report proposing new standards for the 500-yard swim, a bicycle ergometer alternative to the 1.5 mile run in the Navy Physical Readiness Test (PRT), and a report covering prediction of lifting and carrying performance from PRT items.

Finally, Independent Research projects were begun dealing with the interaction of aerobic exercise and cold exposure on cold tolerance, and the impact of an antihistamine on performance of healthy individuals in the cold. The data collection for the animal studies dealing with aerobic exercise and cold exposure has been completed, and the data are being analysed.

Publications from January 1987 to September 1988 are:

- 87-26 **Beckett, MB & JA Hodgdon**  
**LIFTING AND CARRYING CAPACITIES RELATIVE TO PHYSICAL FITNESS MEASURES**  
(Center Publication, AD# A189-305) Work Unit #M0096-PN.002-1050

Abstract: To determine relationships between performance of shipboard tasks and measures of physical capacity, three tasks representative of general shipboard work were developed. Task studies were an 11-minute box carry for distance, and maximal lifts to two different heights. Physical capacity was determined from Navy Physical Readiness Test (PRT) measures, non-PRT field measures, fat free mass (FFM) from circumferences and weight, and maximal capacity on an incremental life machine used in military selection. 1.5 mile run time and FFM were found to predict box carry power, while FFM and push-up score predicted maximal lifting capacity. Age and gender did not enter predictions, suggesting the appropriateness of age- and gender-free standards of fitness.

- 87-27 **Buono, MJ**  
**VALIDITY OF THE 500 YARD SWIM AND 5 KILO-METER CYCLE RIDE AS INDICATORS OF AEROBIC FITNESS**  
(Center Publication, AD# A189-303), Work Unit #M0096-PN.002-1050

Abstract: Two studies were performed to determine the validity of including a 500-yard swim or a 5-kilometer



Maximum bench press strength.

stationary cycle ride as an aerobic fitness measure in the Navy's Physical Readiness Test (PRT). Aerobic fitness criteria were 1.5-mile run time and maximal oxygen uptake. Results showed swimming skill, not aerobic fitness, was the primary determinant of swim test performance. Cycle test performance, however, was strongly related to criterion measures of aerobic fitness. Recommendations were made for the inclusion of a cycle test, but not a swim test, as a PRT measure of aerobic fitness.

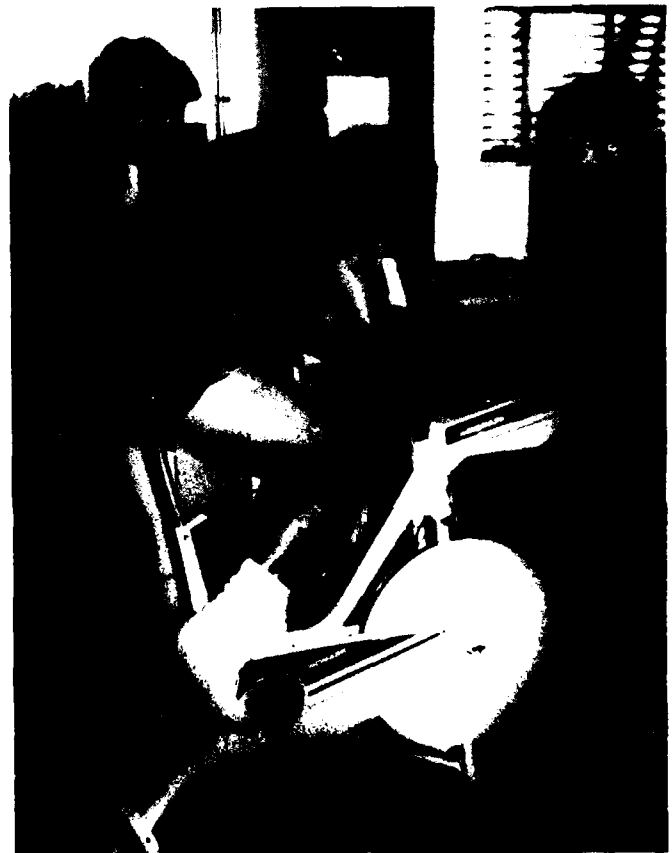


Maximal Treadmill Test

HM1 Hiatt

HM2 Kauers

HM2 Buker



HM3 Morosi

Wingate Anaerobic Power Test

**88-3 Gray, CC; MD McKirnan, FC White, L Mandarino, G Sun, & J Miles**  
**THE EFFECT OF ADAPTATION TO A LOW CARBOHYDRATE/HIGH FAT DIET AND PRE-EXERCISE FEEDING ON EXERCISE ENDURANCE, METABOLISM, AND CARDIOVASCULAR DYNAMICS IN SWINE** (Center Publication) Work Unit: Army 3M2637630819.AD.141-6

Abstract: Adaptation to a low carbohydrate (7%) high fat (74%) diet (LCD) in exercise trained miniature swine resulted in a 30% increase in moderate exercise endurance during runs of up to five hours duration. The LCD group exhibited lower carbohydrate utilization for muscle metabolism, lower blood triglyceride and cholesterol, and decreased insulin sensitivity. Pre-exercise feeding resulted in greater cardiac output and oxygen consumption, reduced myocardial blood flow (BF), reduced active muscle BF, and increased gastrointestinal BF. Other results and implications are discussed.

**88-31 Gray, CG; FC White, MD McKirnan, MR Lawlor, & CM Bloor**  
**EFFECTS OF EXERCISE INTENSITY AND PRE-EXERCISING FEEDING ON SPLANCHNIC TISSUE BLOOD FLOW** (Center Publication) Work Unit: Army 3M2637630819.AD.141-6

Abstract: During progressive intensity exercise in untrained miniature Swine we have demonstrated generalized declines in blood flows (BFs) to the gastrointestinal organs, spleen, and kidney, with no change in liver BF in fasted untrained swine during graded exercise. There were corresponding progressive increments in heart rate, cardiac output, mean arterial pressure, left ventricular BF, and active muscle BF. Postprandial EX produced similar reductions in stomach and intestine BFs compared to resting values, but BFs were maintained consistently higher than for corresponding fasting EX. Post-prandial EX also resulted in higher cardiac outputs, but lower active muscle BFs than for fasting EX.

**88-32 McKirnan, MD; CG Gray, & FC White**  
**PLATEAU IN MUSCLE BLOOD FLOW DURING PROLONGED EXERCISE IN MINIATURE SWINE** (Center Publication) Work Unit: Army 3M2637630819.AD.141-6  
Journal of Applied Physiology (in press)

Abstract: Muscle blood increased from rest and then remained unchanged during moderate exercise (65% of the heart rate range) runs of approximately 100 minutes duration in exercise trained miniature swine. This muscle blood flow response corresponded to a plateau in core temperature and was comparable to that of humans exercising under similar conditions. Cardiovascular drift in swine differed from that in humans due to differences in temperature regulation, posture, and maintenance of central blood volume. An upward drift in heart rate and cardiac output during the prolonged exercise was most likely the result of increasing skin blood flow.

**88-23 Vickers, RR Jr. & LK Hervig**  
**PSYCHOSOCIAL RISK FACTORS FOR UPPER RESPIRATORY INFECTIONS: ASSESSMENT OF UPPER RESPIRATORY ILLNESS DURING BASIC TRAINING** (Center Publication, AD# A200-570) Work Unit: MR04101.07-6004

Abstract: It was shown that an 8-item upper respiratory illness (URI)

composite suitable for use in military populations performing hard physical work under psy-chologically stressful conditions could be developed by evaluating 39 possible URI symptoms in 4 samples of U.S. Navy recruits. It also was shown that adjustment for concurrent allergies and musculoskeletal problems are needed to ensure that URI reports are valid.

**88-25 Vickers, RR Jr. & LK Hervig**  
**PSYCHOSOCIAL RISK FACTORS FOR UPPER RESPIRATORY INFECTIONS: DEMOGRAPHIC AND HEALTH HISTORY PREDICTORS OF URI DURING BASIC TRAINING**  
(Center Publication, AD# A200-569) Work Unit: MR04101.07-6004

Abstract: Moderately strong associations between health history variables and upper respiratory illness (URI) was demonstrated in 4 samples of U.S. Navy recruits during basic training. A history of relatively severe respiratory illness and a history of general susceptibility to infectious diseases were shown to be the best URI predictors. Demographic attributes were poor URI predictors although Whites were shown to consistently experience slightly more URI than other ethnic groups.

**88-36 Vickers, RR Jr. & LK Hervig**  
**PSYCHOSOCIAL RISK FACTORS FOR UPPER RESPIRATORY INFECTIONS: PERSONALITY PREDICTORS OF URI DURING BASIC TRAINING**  
(Center Publication, AD# A200-573) Work Unit: MR04101.07-6004

Abstract: Neurotic personality was shown to be a weak, but reliable, predictor of upper respiratory illness (URI) in three samples of recruits in U.S. Navy basic training, even after correcting for an association between neuroticism and hypochondriasis, defined as a general tendency to report all types of symptoms. Four other major personality dimensions investigated were shown to be unrelated to URI.

**88-37 Vickers, RR Jr. & LK Hervig**  
**PSYCHOSOCIAL RISK FACTORS FOR UPPER RESPIRATORY INFECTIONS: SELF-MONITORING, SELF-CONSCIOUSNESS, AND SYMPTOM REPORT ACCURACY**  
(Center Publication, AD# A200-572) Work Unit: MR04101.07-6004

Abstract: Self-monitoring and self-consciousness, two personality attributes that might affect physical symptom reporting accuracy, were shown to have no effect on the validity of reports of upper respiratory illness (URI). High and low scorers on these personality dimensions did not differ with respect to associations between URI reports and health history, general symptom reporting tendencies, or personality measures.

**88-28 Vickers, RR Jr.**  
**EXAMINING BIVARIATE ITEM-CRITERION ASSOCIATIONS: A METHOD OF EXPLORING PERSONALITY CORRELATES OF JOB-RELATED BEHAVIORS**  
(Center Publication, AD# A200-568) Work Unit: MR04101.07-6004

Abstract: Individual items in a personality questionnaire were shown to differ reliably with respect to their utility for predicting attrition from Marine Corps basic training. Two brief personality predictors of training success developed by factor analyzing responses to the 18 items with the strongest associations to

attrition were shown to be superior to standard personality scales and to discriminant function scales when cross-validated as predictors of attrition in a new sample.

**88-34 McDonald, DG; JP Norton, & JA Hodgdon**  
**DETERMINANTS AND EFFECTS OF TRAINING SUCCESS IN U.S. NAVY SPECIAL FORCES**  
(Center Publication, AD# A200-684) Work Unit: NAVSEA Reimbursable

Abstract: The determinants and effects of an intensive military training experience were studied in a select group of trainees in U.S. Navy Special Forces, Basic Underwater Demolition/Seals (BUD/S). Results indicated that (a) graduates differed consistently on the Estimation Scale of the Physical Estimation and Attraction Scale (PEAS), and four scales on the Hogan Personality Inventory (HPI); and (b) graduates showed consistent post-test changes in the Estimation scale, plus three out of six scales on the Profile of Mood States (POMS), and four scales on the HPI. Differences between graduates and drops suggested that some aspects of the PEAS and HPI could be used in a screening procedure to reduce attrition. Post-test changes in the PEAS, POMS, and HPI in graduates were interpreted as indicative of both general and unique features of the BUD/S training experience.



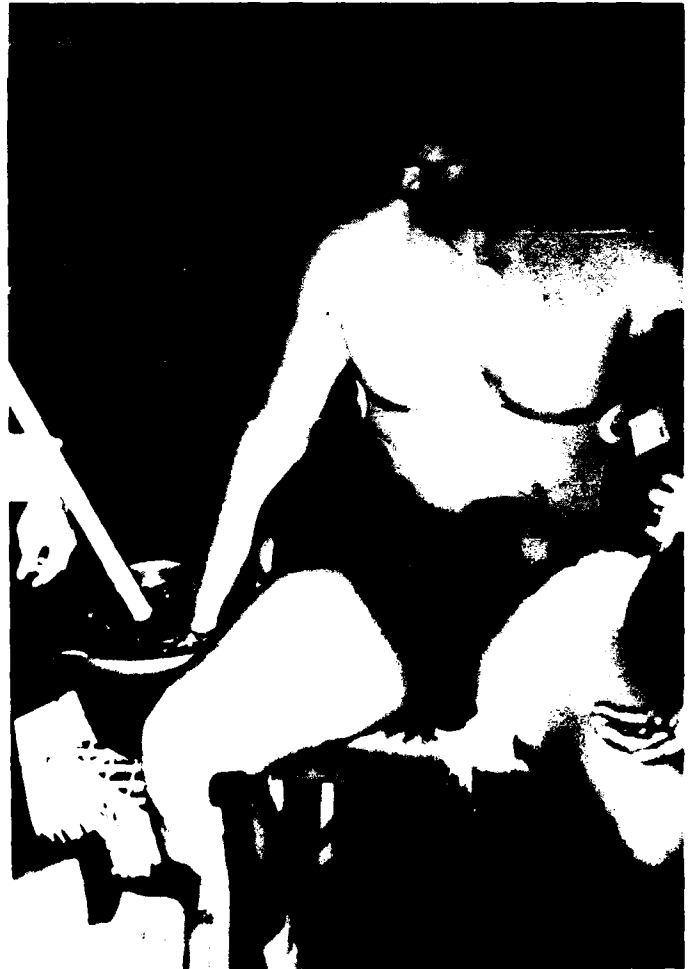
Cognitive performance testing during prolonged cold water immersion study.

**88-35 McDonald, DG; MB Beckett, & JA Hodgdon**  
**PSYCHOLOGICAL PREDICTORS OF FITNESS AND PERFORMANCE IN ACTIVE DUTY U.S. NAVY PERSONNEL**  
(Center Publication, AD# A200-377) Work Unit: #M0096-PN.002-1050

Abstract: The effectiveness of psychological variables (mood, physical estimation and attraction, physical self-concept, and personality measures) in predicting



Temperature Sensors Placed on SDV operator for Cold Water Mission Simulation Study



Cold Pressor Test of SDV Operator



physical performance and fitness measures was studied in a group of military volunteers. The primary findings were: (a) questionnaire measures, most notably the Attraction score from the Physical Estimation and Attraction Scale, can be used to predict performance and fitness measures in an active duty Navy sample; (b) while fitness measures are clearly superior to questionnaire measures in predicting physical performance, questionnaire measures, again most notably the Attraction score, can be used to enhance the prediction equation over fitness measures alone; (c) these findings were equally true for both male and female subjects, as there were no gender differences in significance of questionnaire measures to predict performance or fitness.

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Plans were initiated in February 1988 to establish a field laboratory to perform cognitive and physical performance measures at the Marine Corps Mountain Warfare Training Center (MCMWTC), Bridgeport, California. In April 1988, a request to use an existing mobile field laboratory was sent to Commanding Officer, Naval Aerospace Medical Research Laboratory (NAMRL), Pensacola, Florida. NAMRL responded favorably and the mobile laboratory was transported in June of 1988 to MCMWTC. Installation was provided courtesy of Naval Reserve Seabee Battalion RNCB-2 Det 502 based at Fallon, Nevada.



Program 6 Research & Development DD-1498s  
Current Work Units for FY-87 & FY88

CURRENT FY-88 NEW and CONTINUATION Approvals

NAVY 61152N In-house Independent Research

MR0000.01.01-6040 CHANGE - Cognitive and Performance Effects of Therapeutic Drug Utilization in Military Populations (Smith)

NAVY 61153N

MR04101.003 - 6003 CHANGE - Effects of Psychopharmacological Agents on Performance (Naitoh/Gomez)  
<DN246547>

MR04101.00A - 6004 CHANGE - Evaluation of Risk Factors for Infectious Disease (Vickers/Hervig/Hodgdon)  
<DN246546>

NAVY 62233N

MM33P30.002 - 6005 CHANGE - Biomedical Enhancement of Mission Performance of Special Forces Personnel (Goforth/Reidy/Kelly/et al.)  
<DN246548>

NAVY 63706N

M0095.005 - 6050 NEW - Determination of Specific Casualty/Injury Condition Rates for Navy and Marine Corps Operations Scenarios (Blood/Pugh)  
(DN249506)

M0095.005 - 6004 CHANGE - Projection of Disease and Non-Battle Injury (DNBI) for the Navy and Marine Corps (Pugh/Palinkas/Wilcox)  
<DN246555>

M0095.005-NMPC Reimb. CHANGE - Health and Physical Readiness Program Evaluation (Conway/Nice)  
(DN248511)

M0096.002 - 6002 CHANGE - Naval Forces Cognitive and Physical Performance Enhancement during Sustained Operations (Banta)  
(DN248545)

M0096.002 - 6003 NEW - Cold-Related Combat Performance Decrements (Kelleher/Vickers/Hodgdon)  
(DN248539)

NAVY 65157N

M00106.001 - 6001 CHANGE - Operational Navy Medical Support (Steele/Nice)  
<DN247503>

ARMY 63764A

3M463764.B995.AB.087-6 CHANGE - The Impact of Chemical Defense Measures on Sustained Military Operations (Englund)  
<DA307899>

REIMBURSABLES

NPRDC/ONT NEW - Biopsychometric Assessment of Human Performance (Kobus)

MEDCOM CHANGE - Navy HIV Clinical Evaluation Surveillance Study (Garland)

**REIMBURSABLES cont.**

NAVSEA CHANGE - Determinants of Training Success and Performance in Naval Special Forces Personnel (Armstrong/Aronen/Vickers)

Public Health CHANGE (U) Occupational Illness and Injury Disability Cost Containment Evaluation Project (Hoiberg/Nice)

**FY-87 COMPLETIONS/TERMINATIONS**

61152N MR0000.01-6037 COMPLETION - The Effects of Selective Attention on the Processing of Auditory and Visual Information (Kobus)  
Start Date: 9 Nov 85 Completion: 30 Sep 87

62233N MM33P30.05-0003 TERMINATION - Development of a Neurometric Test Battery for Prediction of Performance on Complex Tasks (Hord/Kobus)  
Start Date: 1 Oct 83 Termination: 30 Sep 87

63706N M0095.001-1053 TERMINATION - Advanced Development of Medical Information Systems for Navy and Marine Corps Operational Environments (Pubh/Helmkamp/Palinkas)  
Start Date: 1 Oct 85 Termination: 3 Aug 87

63706N M0096.002-1050 COMPLETION - Maintenance of Performance Readiness Under Shipboard Conditions Beckett/Norton/Hodgdon  
Start Date: 1 Oct 83 Completion: 30 Sep 87

63706N M0095.006-1054 COMPLETION - Epidemiology and Surveillance of Occupationally Related Disorders in Naval Personnel (Garland/Helmkamp)  
Start Date: 1 Oct 85 Completion: 30 Sep 87

63706N M0096.002-6001 COMPLETION - Evaluation of Low Level White Lighting for Shipboard Use (Kobus)  
Start Date: 1 Oct 86 Completion: 30 Sep 87

**FY-88 COMPLETIONS/TERMINATIONS**

611452N MR0000.01.01-6039 COMPLETION - The Effects of Endurance Training and Cold Weather Immersion on Cold Water Tolerance (Riedy)  
<DN246584> Start Date: 11 Dec 87 Completion: 30 Sep 88

63763A 3M263763D819.AD.141-6 COMPLETION - Bioenergetics of Exercise: Effects of Dietary Manipulation on Substrate Utilization in the Pig (Gray/McKirnan/White/et. al.)  
<DA307899> Start Date: 17 Dec 84 Completion: 30 Sep 88

62770A 3M162770.A870.AR 621 COMPLETION - Infectious Disease Surveillance and Epidemiological Research (Palinkas)  
Start Date: 1 Oct 87 Completion: 30 Sep 88

NAVSHIP REIMB. COMPLETION - Hazardous Materials and Health Aboard Ship (Garland/White)  
Start Date: 1 Oct 87 Completion: 30 Sep 88

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## Other NHRC Technical Reports Published in 1987 & FY-88

### Published Articles

- Buono, MJ; YE Yeager, & AA Sucec (1987)  
Effect of Aerobic Training on the Plasma ACTH Response to Exercise  
Journal of Applied Physiology, 63(6), 2499-2501  
(Report No. 86-28, 1987 Center Publication, AD# A178-430)
- Burr, RG & A Hoiberg (1988)  
Health Profile of U.S. Navy Pilots of Electronically Modified Aircraft  
Aviation, Space & Environmental Medicine, 59, 168-171  
(Report No. 85-46, 1986 Center Publication, AD# A174-582)
- Coben, P & LA Palinkas (1988)  
A Case of Suicide  
Military Medicine, 153(2), 65-67  
(Report No. 86-30, 1987 Center Publication, AD# A180-174)
- Forman, SA; JC Helmkamp, & CM Bone (1987)  
Cardiac Morbidity and Mortality Associated with Occupational Exposure to 1, 2  
Propylene Glycol Dinitrate  
Journal of Occupational Medicine, 29(5), 445-193
- Gorham, ED & FC Garland (1988)  
Coffee and Pancreatic Cancer in a Rural California County  
Western Journal of Medicine, 148(6), 48-52
- Forman, SA; HG Potter, & JC Helmkamp (1987)  
Retrieval Methodology for Navy Inpatient Records  
Military Medicine, 152(4), 190-193
- Graves, JE, PM Clarkson, P Litchfield, JP Kirwan, & JP Norton (1987)  
Serum Creatine Kinase Activity Following Repeated Bouts of Isometric Exercise  
with Different Muscle Groups  
European Journal of Applied Physiology, 56(6), 657-661
- Helmkamp, JC & CM Bone (1987)  
The Effect of Time in a New Job on Hospitalization Rates for Accidents and  
Injuries in the U.S. Navy, 1977 through 1983  
Journal of Occupational Medicine, 29(8), 653-659  
(Report No. 86-10, 1986 Center Publication, AD# A173-153)
- Helmkamp, JC & JH Seidman (1988)  
Using the Navy's Occupational Health Information Management System and  
Medical Query Language to Assess Hearing Loss  
Military Medicine, 153(1), 1-7  
(Report No. 86-34, 1986 Center Publication, AD# A173-336)
- Hodgins, DR (1987)  
Descriptive Statistics Using the Veterans Administration File Manager as a  
Relational Database Management System  
Proceedings, 1987 MUMPS Users' Group Meeting, XVII(1), 93-102
- Johnson, LC; CL Spinweber, SC Webb, & AG Muzet (1987)  
Dose Level Effects of Triazolam on Sleep and Response to a Smoke Detector Alarm  
Psychopharmacology, 91, 397-402  
(Report No. 85-44, 1986 Center Publication, AD# A120-215)

**Published articles (cont.):**

- Kelleher, DL & MJ Fregly (1987)  
Diminished Metabolic Responsiveness to Beta-adrenergic Stimulation in Estradiol-  
benzoate treated Rats  
Pharmacology, 35, 203-216
- Kilbourne, B (1988)  
A Social Psychological Analysis of Healing  
Journal of Integrative and Electric Psychotherapy, 7(1).
- McCaughey, BG; JH Kleiger, AFC Reyes, AC Miller, & HW Nathan (1987)  
Clinical Observations concerning Active Duty Veterans with Post-Vietnam  
Adjustment Problems  
Journal of Psychology, 121(2), 159-168  
(Report No. 84-51, 1985 Center Publication, AD# A155-108)
- McCaughey, BG (1987)  
U.S. Navy Special Psychiatric Rapid Intervention Team (SPRINT)  
Military Medicine, 152(3), 132-135  
(Report No. 85-41, 1986 Center Publication, AD# A163-116)
- McCaughey, BG; J Garrick, L Carey, & J Kelley (1987)  
Naval Support Activity Hospital, Danang, Combat Casualty Deaths January to  
June 1968  
Military Medicine, 152(6), 284-289  
(Report No. 86-11, 1986 Center Publication, AD# A173-336)
- McCaughey, BG; J Garrick, L Cary, & JB Kelley (1988)  
Naval Support Activity Hospital, Da Nang, Combat Casualty Study  
Military Medicine, 153(3), 109-114  
(Report No. 86-1, 1986 Center Publication, AD# A167-907)
- McCaughey, BG; J Garrick, LC Carey, & JB Kelly (1988)  
Naval Support Activity Hospital, Danang, Casualty Blood Utilization January  
to June 1968  
Military Medicine, 153(4), 181-185  
(Report No. 86-16, 1986 Center Publication, AD# A173-347)
- McCaughey, BM; J Garrick, & JB Kelley (1988)  
Combat Casualties in a Conventional and Chemical Warfare Environment  
Military Medicine, 153(5), 227-229  
(Report No. 86-9, 1986 Center Publication, AD# A173-275)
- Marcinik, EJ; JA Hodgdon, CE Englund, & JJ O'Brien (1987)  
Changes in Fitness and Shipboard Task Performance Following Circuit Weight  
Training Programs Featuring Continuous or Interval Running  
European Journal of Applied Physiology, 56(2), 132-137 (AD# A182-680)  
(Report No. 85-33, 1985 Center Publication, AD# A163-110)
- Nice, DS (1987)  
A Survey of U.S. Navy Medical Communications and Evacuations at Sea  
Military Medicine, 152(9), 446-451  
(Report No. 84-22, 1984 Center Publication, AD# A145-937)
- Palinkas, LA (1987)  
A Longitudinal Study of Disease Incidence among Antarctic Winter-Over Personnel  
Aviation, Space and Environmental Medicine, 58, 1062-65  
(Report No. 86-3, 1986 Center Publication, AD# 167-822)

**Published articles (cont.):**

Palinkas, LA (1987)

A Longitudinal Study of Ethnicity and Disease Incidence  
Medical Anthropology Quarterly, 1(1), 85-108

Palinkas, LA (1987)

Points of Stress and Modes of Adjustment in Southwest Alaska  
Human Organization, 46, 292-304  
(Report No. 86-6, 1986 Center Publication, AD# A175-027)

Palinkas, LA & P Coben (1987)

Psychiatric Disorders among U.S. Marines Wounded in Action in Vietnam  
The Journal of Nervous & Mental Disease, 175(5), 291-300 (Reprint AD# A189-689)  
(Report No. 86-17, 1986 Center Publication, AD# A175-672)

Palinkas, LA & P Coben (1988)

Psychiatric Casualties among U.S. Marines in Vietnam  
Military Medicine, 153(10), 521-526  
(Report No. 85-47, 1986 Center Publication, AD# A167-347)

Palinkas, LA & P Coben (1988)

Disease and Non-battle Injuries among U.S. Marines in Vietnam  
Military Medicine, 153, 150-155  
(Report No. 86-5, 1986 Center Publication, AD# A177-969)

Vickers, RR Jr. & LK Hervig (1987)

Effects of Response Style on the Polarity and Validity of Two-dimensional Mood  
Models Psychological Reports, 61, 247-258  
(Report No. 85-25, 1986 Center Publication, AD A170-294)

**Chapters in Book(s)**

Palinkas, LA (1988).

Tradition and change in an immigrant Chinese church in California.  
In GR Saunders (Ed.), Culture and Christianity: The Dialectics of  
Transformation (pp 117-134). New York: Greenwood Press.

**Book(s)**

In M Chase, D McGinty & C O'Connor (Eds.), Sleep Research, Vol. 17, Los Angeles,  
California: UCLA, Brain Research Institute, 1988:

Gomez, SA, CL Spinweber, & LC Johnson  
Caffeine, Benzodiazepines, and Memory Loss (p. 41)

Johnson, LC; CL Spinweber, & SA Gomez  
Caffeine, Benzodiazepines, and Daytime Sleepiness (p. 44)

Spinweber, CL; LC Johnson & SA Gomez  
Caffeine, Benzodiazepines, and Daytime Performance (p. 66)

Bellune, JJ & CL Spinweber  
Effects of a Sleep Hygiene Course on Sleep Quality during SEAL Team  
Training (p. 146)

Spinweber, CL & JJ Bellune  
Development of Insomnia is Associated with Failure in SEAL Team  
Training (p. 261)

Freeman, CR; LC Johnson, CL Spinweber, & SA Gomez  
The Relationship among Four Measures of Sleepiness (p. 334)

### Abstracts

- Beckett, MB & JA Hodgdon (1987)  
(Abstract) Effect of Gender and Percent Body Fat on Prediction of VO<sub>2</sub>max from Running Performance  
Medicine and Sciences in Sport and Exercise, 19(2), S28
- Englund, CE; TL Kelly, D Ryman, JE Yeager, AA Sucec, & DA Smith (1987)  
Cognitive Performance during 12 hours of continuous work in MOPP4 (p 665).  
Proceedings of the Sixth Medical Chemical Defense Bioscience Review, 4-6 August 87, Columbia, Maryland.
- Gray, CG & MD McKirnan (1988)  
Effects of a Low Carbohydrate/High Fat Diet on Moderate Intensity Exercise Endurance in Miniature Swine  
Medicine & Science in Sports Exercise, 20(2), S46
- Gray, CG; MD McKirnan, FC White, & CM Bloor (1988)  
Post-feeding Exercise Effects on Gastrointestinal and Myocardial Organ Blood Flows in Miniature Swine  
FASEB Journal, 2(5), A1318
- Hodgdon, J; M Riedy, H Goforth, J Norton, M Murgia, B Mandelbaum, & AC Vailas (1988)  
Plasma Hydroxyproline and its Association to Overuse Training  
Medicine & Science in Sports Exercise, 110(58)
- Hodgins, DR (1987)  
GAUSS, GRINDS, and GRUMPS  
MUG Quarterly, XVIII(2)
- Kelly, TL; JE Yeager, AA Sucec, D Ryman, CE Englund, & DA Smith (1987)  
Effects of the M17A2 gas mask on resting spirometry and reaction time-accuracy measures under sedentary conditions (p. 673).  
Proceedings of the Sixth Medical Chemical Defense Bioscience Review, 4-6 August 87, Columbia, Maryland
- McKirnan, MD; CG Gray, & FC White (1988)  
Prolonged Exercise Muscle Blood Flow in Miniature Swine  
Medicine & Science in Sports Exercise, 20(2), S12
- McKirnan, MD; CG Gray, FC White, & CM Bloor (1988)  
Effects of Feedings on Muscle Blood Flow during Prolonged Exercise in Miniature Swine  
FASEB Journal, 2(5), A1318
- Riedy, M; J Hodgdon, H Goforth, J Norton, M Murgia, B Mandelbaum, & AC Vailas (1988)  
A Serum Marker for Monitoring the Exercise-induced Degradation of Connective Tissues  
Medicine & Science in Sports Exercise, 110(57)
- Ryman, D; CE Englund, TL Kelly, & P Naitoh (1987)  
Mood, symptom, fatigue, sleepiness and vital sign changes in mask and protective suit under nonexercising conditions (p 669).  
Proceedings of the Sixth Medical Chemical Defense Bioscience Review, 4-6 August 87, Columbia, Maryland.
- Segal, KR; M Van Loan, PI Fitzgerald, JA Hodgdon & TB Van Itallie (1987)  
(Abstract) Estimation of Lean Body Mass by Bioelectrical Impedance: A Multi-center Validation Study  
Medicine and Sciences in Sport and Exercise, 19(2), S38

**ARTICLES "IN PRESS"**

**Manuscripts**

- Conway, TL & TA Cronan  
Smoking and Physical Fitness among Navy Shipboard Personnel  
Military Medicine (in press)  
(Report No. 86-33, 1987 Center Publication, AD# A180-160)
- Hovell, M; C Sipan, B Du Bois, R Hofstetter, A Krefft, H Isaacs, & M Jasis  
Prevalence of Self-reported Illnesses among Poor Mexican Women: Assessment of  
Employment-related Risks  
International Journal of Health Services (in press)
- Marcinik, EJ & JA Hodgdon  
Effect of Intensity, Work/Rest Intervals, and Inclusion of Running on Physical  
Fitness following Circuit Weight Training  
European Journal of Applied Physiology (in press)  
(Report No. 86-2, No Center Publication)
- Murgia, MG; AC Vailas, B Mandelbaum, J Norton, J Hodgdon, & M Riedy  
Plasma Hydroxyproline: A Possible Predictive Marker for Connective Tissue-  
Related Injuries  
American Journal of Sports Medicine, (in press)
- Spinweber, CL  
Sedating and Nonsedating Sleeping Aids in Air Operations  
In: Proceedings, AGARD Aerospace Medical Panel Symposium on Biochemical  
Enhancement of Performance, 29 Sep-2 Oct 86, Lisbon, Portugal (in press)  
(Report No. 86-18, 1986 Center Publication, AD# A173-503)

**Chapters in Book(s)**

- Kilbourne B  
The Psychotherapeutic Implications of New Religious Affiliation  
In M Galanter (Ed., & Chair, Committee on Psychiatry and Religion, American  
Psychiatric Association), Cults and New Religious Movements. Washington, DC:  
American Psychiatric Press, Inc. (in press)

**Abstracts**

- Goforth, H; AA Sucec, CA Sadler, & JA Hodgdon  
Blood Donation and Autologous Reinfusion: Effects upon Aerobic Capacity of  
Female and Male Distance Runners  
International Journal of Sports Medicine (in press)
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## 1987 Center Publications of other Technical Reports

The following reports are provided to show current publication status which are now available upon request.

Benson, W. LF Ghirardi, DA KOBUS, RE Lambert, R Massey, LJ Oswald, & DW Plath  
Report of the OHIO-class Ship Control Station Illumination Committee: Analysis and Solution of Illumination-related Problems on the Ship Control Station of OHIO-class Submarines. (NPRDC TN 88-4, October 1987)

Buono, MJ; JE Yeager, & A Sucec  
Effect of Aerobic Training on the Plasma ACTH Response to Exercise  
(Report No. 86-28, 1987 Center Publication, AD# A178-430)

Coben, P & LA Palinkas  
A Case of Suicide (Report No. 86-30, 1987 Center Publication, AD# A180-174)

Conway, TL & TA Cronan  
Smoking and Physical Fitness among Navy Shipboard Personnel  
(Report No. 86-33, 1987 Center Publication, AD# A180-160)

Garland, FC; MR White, GM Seal, & GA Luiken  
Final Report of the Epidemiology of White Blood Cell Counts at the Naval Weapons Center, China Lake, California 1982-1983  
(Report No. 84-16, 1987 Center Publication, AD# A186-604)

Garland, FC; ED Gorham, CF Garland, & JA Ferns  
Non-Hodgkin's Lymphomas in U. S. Navy Personnel  
(Report No. 86-26, 1987 Center Publication, AD# A187-720)

Golda, K & L Hermansen  
NOHIMS Users' Guide: Introduction to COSTAR  
(Report No. 86-29, 1987 Center Publication, AD# A177-970)

Helmkamp, JC; CM Bone, JH Seidman, C Blood, & JB Kelley  
The Occurrence of Hearing Loss in a Cohort of Civilians Employed at a U.S. Navy Industrial Facility  
(Report No. 86-34, 1987 Center Publication, AD# A180-300)

Hilton, TF; DS Nice, & SM Hilton  
The Shipboard Independent Duty Hospital Corpsman. II: The Optimal Career Pipeline  
(Report No. 86-19, 1987 Center Publication, AD# A178-695)

Hodgdon, JA & PI Fitzgerald  
Validity of Impedance Predictions at Various Levels of Fatness  
(Report No. 86-21, 1987 Center Publication, AD# A186-096)

Hoiberg, A & RG Burr  
Longitudinal Study of the Health Status of U.S. Navy Combat Pilots  
(Report No. 85-12, 1987 Center Publication, AD# A181-935)

Hord, DJ  
Endogenous ERP Components Associated with Performance in Sonar Operators:  
I. Reliability and Relation to Training  
(Report No. 86-35, 1987 Center Publication, AD# A182-478)

**1987 Center Publications of other Technical Reports cont.**

- Kobus, DA & SM Luria  
Operational Evaluation of Low Level White Lighting  
(Report No. 86-24, 1987 Center Publication, AD# A177-800)
- Palinkas, LA; MR Stern, & TL Holbrook  
A Longitudinal Study of Personality and Disease Incidence among Antarctic  
Winter-over Volunteers  
(Report No. 86-25, 1987 Center Publication, AD# A178-429)
- Pearsall, DM & WM Pugh  
MUMPS Programming Documentation Standards  
(Report No. 85-6, 1987 Center Publication, AD# A177-826)
- Vickers, RR; L Hervig, & E Edwards  
Psychosocial Risk Factors for Upper Respiratory Infection: An Exploratory Study  
(Report No. 86-27, 1987 Center Publication, AD# A183-015)
- Vickers, RR  
Psychosocial Risk Factors for Upper Respiratory Infections: Demographic  
Predictors of Outpatient Treatment  
(Report No. 86-31, 1987 Center Publication, AD# A183-066)
- Wilcox, WW & WM Pugh  
The Combat Casualty Care Medical Information System (CCC/MIS) Prototype  
(Report No. 86-32, 1987 Center Publication, AD# A186-313)
- Yeager, JE; RP Crisman, & AA Sucec  
The Effect of Sleep Deprivation and Moderate Intermittent Exercise on Maximal  
Aerobic Capacity: Intermittent Exercise as a Facilitatory Agent  
(Report No. 86-36, 1987 Center Publication, AD# A181-934)

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**CONTRACT REPORT(S)**

- Naitoh, P; W Melnick, D Howard, W Rabinowitz, H von Gierke, JC Webster & H Williams  
Guidelines for Noise and Vibration Levels for the Space Station  
NASA Contract Report 178310, June 1987

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## Presentations during 1987 and FY-88

Formal reports of research findings were reported at national, international, and regional meetings of scientific and medical societies.

### Aerospace Medical Association, 58th Annual Meeting Las Vegas, Nevada, 10-14 May 87

Dr. Sucec - "Alterations in resting Spirometry with the M17A2 Chemical Defense Mask" (with JE Yeager, T Kelly, D Smith, & J Reynolds)

### American Anthropological Society, Annual Meeting Chicago, Illinois, 18-22 Nov 87

Dr. Palinkas - "Clinical and Cultural Perspectives on Mental Health in the U.S. Navy"

Dr. Du Bois - "Hypertension and Social Support: The Case of Older, Urban Samoans in San Diego"

### American Association for the Advancement of Science, Pacific Division Oregon State University, Corvallis, Oregon, 18-22 Jun 88

Dr. Kilbourne - "Predicting Short versus Long Hospital Stay for Navy Personnel with a Back Problem"

### American College of Sports Medicine, Annual Meeting Las Vegas, Nevada, 27-30 May 87

Ms. Beckett - "Effect of Gender and % Body Fat on Prediction of VO2MAX from Running Performance" (with JA Hodgdon)

CDR Gray - "Exercise, Feeding, Gastrointestinal Organ Blood Flow, and Liver Oxygen Supply in Swine" (with FC White, MD McKirnan, & CM Bloor)

### American College of Sports Medicine, Southwest Conference Las Vegas, Nevada, 13-14 Nov 87

Dr. Hodgdon for LT Norton - "Swim Performance Predictors for 457-Meter Front Crawl" (with MJ Buono)

Dr. Hodgdon - "Carrying Power Relative to Field Measures of Fitness"

Ms. Beckett - "Lifting Capacity from Field Measures of Fitness"

Dr. Goforth - "Blood Donation and Autologous Reinfusion: Effects upon Aerobic Capacity of Female and Male Distance Runners" (with AA Sucec, CA Sadler, & JA Hodgdon)

### American College of Sports Medicine, Annual Meeting Dallas, Texas, 25-28 May 88

Dr. Hodgdon - "Plasma Hydroxyproline and its Association to Overuse Training"

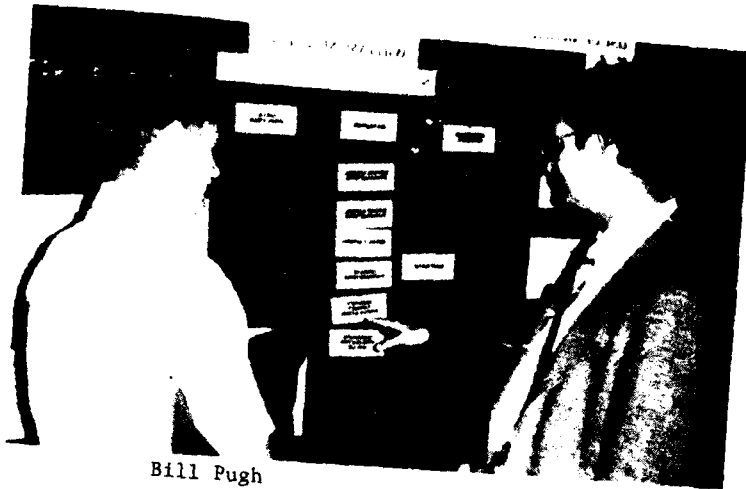
CDR Gray - "Effects of a Low Carbohydrate/High Fat Diet on Moderate Intensity Exercise Endurance in Miniature Swine"

LCDR Armstrong - (Poster Presentation) "Heat Acclimation in Younger and Older Men"

### American Psychological Association, Annual Meeting New York, NY, 28 Aug-1 Sep 87

Ms. T. Conway - "Behavioral, Psychological, and Demographic Predictors of Physical Fitness"

## Poster Presentations



Bill Pugh

Annual Meeting of the  
American Psychological Association  
Atlanta, Georgia  
12-16 August 1988

"Determinants and Outcomes of Collective  
Organizational Climate among Shipboard  
Independent Duty Hospital Corpsmen" -----



Dr. Nice

LT Steele



Terry Conway      Susan Conway      Dr. Sucec  
(Ms. Hoiberg behind stand)

Susan Conway - "Perception of Life  
Quality among Navy Shipboard Men"

Dr. Anthony Sucec - "Heavy Physical  
Work in Protective Ensembles  
Effects on Cognitive Performance"

Anne Hoiberg - "Health Consequences  
and Costs of Obesity"

Paper Session: "Health and Psychological Well Being in the Military"  
Chair: Terry Conway

**American Psychological Association, Annual Meeting** 28 Aug-1 Sep 87, cont.

- Dr. Nice - "Exercise in the U.S. Navy: Intensity, Predictors, and Outcomes" (with T Conway)
- Dr. Nice - "Performance of Shipboard Independent Duty Hospital Corpsmen"
- Ms. Dutton - (Poster Presentation) "Dietary Predictors of Physical Fitness"
- Mrs. Hervig - "Psychological Correlates of Cortisol Excretion in Normal Individuals Under Stress" (with RR Vickers)
- Ms. Hoiberg - "Women, Psychology, and National Security"
- Dr. Englund - (Poster Presentation, Divisions 19/21) "Protective Ensemble and Exercise Effects on Non-aerobic Task Performance"
- LT Kobus - "Man and Machine: The Human Side of the Equation" (with MM Flood & LJ Lewandowski)
- Mr. Gomez and Ms. Bellune for Dr. Spinweber - "Sleep Quality in Successful and Unsuccessful Navy Special Warfare Students"
- Dr. Vickers - "Issues and Opportunities Arising at Choice Points in Psycho-immunological Research"

**American Psychological Association, Annual Meeting** Atlanta, Georgia, 12-16 Aug 88

- Ms. S Conway - "Perceptions of Life Quality Among Navy Shipboard Men" (with T Conway)
- Ms. T Conway - "Smoking, Exercise, and Physical Fitness"
- Dr. Cronan - "The Navy is Creating Smokers: When, Where, and Why?" (with T Conway and Ms. Kaszas)
- Ms. Hoiberg - "Health Consequences and Costs of Obesity"
- Dr. Kilbourne - "Classical versus Modern Science: Will the real psychology please rise?"
- Poster Presentations:
- Mrs. Hervig - "Determinants of Social Support during Transition"
- Ms. Hoiberg - "Health Psychologist's Role in Cost Containment and Case Management"
- Dr. Kilbourne - "Demographic and Regional Determinants of Participation in Specific Exercise Activities" (with DS Nice and T Conway)
- Dr. Nice - "Organizational Climate and Job Satisfaction among Shipboard Independent Duty Hospital Corpsmen" (with LT Steele)
- Dr. Nice - "Demographic and Regional Determinants of Specific Exercise Activities" (B Kilbourne & T Conway)
- Mr. Pugh - "Use of Artificial Intelligence Techniques for Medical Readiness Planning"
- Ms. Bellune for Dr. Spinweber - "Sleep Quality in Successful and Unsuccessful Navy Special Warfare Students"
- D. Wallston - "Multidimensional Health Locus of Control Typologies and Preventive Health Behavior" (with GK Brown, MS Smith, DA Peterson, and DS Nice)

**American Society of Civil Engineering Conference: Space 88, Engineering, Construction, and Operations in Space** Albuquerque, New Mexico, 29-31 Aug 88

Dr. Palinkas - "The Human Experience in Space: Lessons from Antarctica"

**Association of Professional Sleep Societies Meetings**, San Diego, California, 11-15 Jun 88

Mr. Gomez - "Caffeine, Benzodiazepines, and Memory Loss"  
- "Caffeine, Benzodiazepines, and Daytime Sleepiness"  
- "Caffeine, Benzodiazepines, and Daytime Performance"  
- "The Relationship among Four Measures of Sleepiness"

Ms. Bellune - "Effects of a Sleep Hygiene Course on Sleep Quality during Seal Team Training"

Dr. Spinweber by Ms. Bellune - "Development of Insomnia is Associated with Failure in Seal Team Training"

**Federation of American Societies of Experimental Biologists** Washington, DC, 29 Mar-3 Apr 87

CDR Gray - "Effects of Feeding and Exercise on Blood Flow in Liver and Gastro-intestinal Tissues in Swine" (with FC White, MD McKirnan, & CM Bloor)

CDR Gray - "Evidence for Splenic Contraction in Swine"

**Federation of American Societies of Experimental Biologists** Las Vegas, Nevada, 4 May 88

CDR Gray - "Post-feeding Exercise Effects on Gastrointestinal and Myocardial Organ Blood Flows in Miniature Swine"

CDR Gray - "Effects of Feeding on Muscle Blood Flow during Prolonged Exercise in Miniature Swine"

**International Conference on Biomagnetism, 6th** Tokyo, Japan, 27-30 Aug 87

Dr. Naitoh - "Evoked Neuromagnetic Fields: Implications for Indexing Performance" (with G Lewis)

**International Congress of Sleep Research, 5th** Copenhagen, Denmark, 28 Jun-3 Jul 87

Dr. Spinweber - "Sleep Tapes and Sleep Hygiene Classes as Treatments for Sleep-onset DIMS"

Dr. Spinweber - "Flight Crew Sleep after Multiple Layover Polar Flights"

Dr. Spinweber - "Comparison of Automatic Sleep Stage Scoring and Visual Analysis"

**IUPS Milestone in Environmental Physiology** Las Vegas, Nevada, 30 Apr-1 May 88

Poster Presentations

LCDR Armstrong - "The Effect of Age and Acclimation on Resting Thermoregulatory Responses to the Cold"  
- "Effects of Age and Acclimation on Resting Thermoregulatory Effector Thresholds"  
- "Peripheral Changes in Thermoregulatory Effector Function with Age"

NASA's Occupational Health Program, 1987 Annual Occupational Health Meeting San Diego, California, 2-6 Nov 87

Mr. Pugh - "An Overview of the Navy Occupational Health Information Management System (NOHIMS)"

NASA Case for MARS III Conference Boulder, Colorado, 20 Jul 87

Dr. Palinkas - "Antarctica as a Model for the Human Exploration of Mars"

NASA: Technical Symposia, Air/Space America San Diego, California, 16-19 May 88

Dr. Palinkas - "Antarctica as an Analog for Space"

NATO Defense Research Group (DRG) Seminar: Sleep and Its Application of the Military Lyon, France, 16-17 Mar 87

Dr. Spinweber - "L-tryptophan, Sleep, and Performance"

NATO Exploratory Group F: Biomedical Aspects of Military Training Brussels, Belgium, 2-4 Mar 88

Dr. Hodgdon (Participant) - Formation of NATO Research Study Group 17 to "Investigate Fitness Gains vs. Injuries Associated with Physical Training in the Military"

NSF/NASA Conference: Human Experience in Antarctica: Applications to Life in Space Sunnyvale, California, 17-19 Aug 87

Dr. Palinkas - "Group Adaptation and Individual Adjustment in Antarctica: A Summary of Recent Research"

Polyphasic And Ultrashort Sleep-Wake Patterns Workshop Castellio di Garganza, Italy, 26-28-May 88 (Sponsored by Commission of the European Communities, Medical & Public Health Program)

Dr. Naitoh - "Minimal Sleep to Maintain Performance: Search for the Sleep Quanta in Sustained Operations"

Psychology in the DOD Symposium, 11th U.S. Air Force Academy, Colorado Springs, Colorado, 13-15 Apr 88

Mrs. Trent - "The Seven Alameda Health Practices and Physical Fitness Among Navy Shipboard Men"

Scientific Committee for Antarctic Research (SCAR) XX Symposium Colloquium on Human Factors in Antarctica, Hobart, Australia, 7 Sep 88

Dr. Palinkas - "Long-term Effects of Antarctica on Health and Performance"

Society for Applied Anthropology Tampa, Florida, 20-23 Apr 88

Dr. Palinkas - "A Multidisciplinary Perspective on Health and Adaptation in Antarctica"

Society for Marine Mammals, 2nd Workshop on Energetics Miami, Florida, 4 Dec 87

Dr. Coforth - "Glycogen Levels and Depletion Rates in the Locomotor Muscles of the Bottlenose Dolphin (*Tursiops truncatus*)" (with PJ Pongonis & VR Edgerton)



Society for Occupational and Environmental Health, Annual Meeting Bethesda, Maryland, 7 Apr 87

LCDR Helmkamp - "The First Month in a New Job: A Critical Factor Affecting Hospitalizations due to Accidents and Injuries"

The Association for the Study of Food and Society, 2nd Annual Meeting Washington, DC, May 88

Dr. Du Bois - "Dietary Factors Related to Blood Pressure: The Case of Urbanized Samoans"

Western Psychological Association Long Beach, California, 23-26 Apr 87

Dr. Spinweber - (Invited Presentation) "What is REM Sleep"

Dr. Cronan-Hillix (for K. A. Peterson) - "Comparing Body Fat Indicators of Physical Fitness" (with TL Conway)

Dr. Cronan-Hillix - "The Effects of Prohibiting Smoking by Navy Recruits" (with CA McDonald & LK Hervig)

Western Psychological Association San Francisco, California, 28 Apr-1 May 88

Ms. Bellune - "Effects of 48-hour Vigil in the Navy Seal Team Training Program"

Dr. Kilbourne - "Medical and non-medical Predictors of Disability Discharge Disposition for Navy Personnel with a Back Problem: A Focus on Entitlement"

Dr. Cronan - "One Year Follow-up Results for Three Smoking Programs" (with T Conway)

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Reports read, discussions led, or presentations made at other congresses, centers, local community, and media.

DECUS '88 Anaheim, California, 8 Dec 87

Mr. Hodgins - "How Relational is the Veteran's Administration File Manager?"

NASA Ames Research Center Moffett Field, California, 17 Sep 87

LT Kobus - "NHRC's Participation in ONR's Summer Faculty American Society for Engineering Education (ASEE) Program"

NOHIMS Configuration Control Board, First General Session Norfolk, Virginia, 15-16 Sep 87

Dr. Nice - (Invited Panel Discussion) "Evaluation of the Public Health Department Claims Management Process"

Psychiatric Research Institute Tokyo, Japan, 31 Aug 87

Dr. Naitoh - "Medical Research Issues and Protection of Human Subjects"

San Diego Epidemiologic Research Exchange University of California at San Diego, San Diego, California

Dr. Garland - 2nd Annual Meeting, Chairman and Coordinator, 9 May 87

Mr. Ko Shaw - 3rd Annual Meeting, Coordinator, 14 May 88

UTP4 Key Technical Area Meeting Army Personnel Research Establishment, Farnborough, United Kingdom, 27-29 Sep 83 (with R Angus & R Piegau, DCIEM; M Rejman, APRE)

Dr. Naitoh - "Sustained Operations Program and Collaborative Experiment"

**Media / Local Community**

Navy Broadcasting: Navy News Today San Diego, California, 27 Jan 87

Dr. Spinweber - "Jet Lag"

CNN TV NEWS San Diego, California, 7 May 87

Dr. Hodgdon - "The Successful SEAL Trainee"

Cox Cable TV Show: The Incredible Women of America, San Diego, California

3 Jun 87, Ms. Hoiberg - (served as hostess and interviewed Attorney Mary Franklin) - "Women in Politics, Law, and Government"

15 Jul 87, Ms. Hoiberg - (served as hostess and interviewed Rachel Gil, Director, Women's Program, Alvarado Parkway Institute) - "Meeting Health Care Needs of Women"

Anchorage Daily News, 2 Aug 87

San Jose Mercury News, (Interviewed by Reporter on 18 Aug 87)

Navy Times, 26 Oct 87, (Interviewed by Reporter on 19 Oct 87)

Army Times, 2 Nov 87

Defense News, 19 Nov 87

San Diego Union

Psychology Today, (Mar) 1987

Dr. Palinkas - "Antarctic Research Profiled"

Charles Osgood File, CBS Network Radio

Dr. Palinkas - "Antarctic Research Profiled"

Australian Broadcasting Corporations' National Public Radio, Hobart Australia, 8 Sep 88

Dr. Palinkas - "Long-term Effects of Antarctica on Health and Performance"

Mercury, 8 Sep 88 edition, Hobart, Australia (Interviewed by Reporter on 7 Sep 88)

Physician's Week, Hobart, Australia (Interviewed by Journalist on 7 Sep 88)

Dr. Palinkas - "Long-term Effects of Antarctica on Health and Performance"

San Carlos United Methodist Church San Diego, California, 17 May 87

Dr. Goforth - "Fitness for Life"

Fletcher Hills Elementary School La Mesa, California, 1 Jun 87

Dr. Goforth - "Cetology and Cold Water Diver Protection"

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Reports read, findings reported, discussions led, or presentations made at military sponsored meetings.

Design Of Studies to Assess Training For Load Carriage Ft. Benjamin Harrison, Indiana, 9-10 Feb 88

Dr. Hodgdon, Participant - To design studies to determine optimal training for carrying loads. Possible Army/Navy collaboration.

Medical Chemical Defense Bioscience Review, 6th Columbia, Maryland, 4-6 Aug 87

Poster Presentations:

Dr. Englund - "Cognitive Performance during 12 Hours of Continuous Work in MOPP4"

Dr. Sucec - "Decrement in Maximal Performance with the MOPP4 Gear"

Dr. Sucec for Mr. Yeager - "Changes in the Perception of Exertion and Thermo Stress While Walking in Marine Fatigues and MOPP4 Gear" (with L Verity & CE Englund)

Dr. Sucec for Dr. Kelly - "Effects of the M17A2 Gas Mask on Resting Spirometry and Reaction Time-Accuracy Measures under Sedentary Conditions" (with JE Yeager, DH Ryman, CE Englund, & DA Smith)

Dr. Englund for Mr. Ryman - "Mood, Symptom, Fatigue, Sleepiness and Vital Sign Changes in Mask and Protective Suit under Non-exercising Conditions" (with T Kelly & P Naitoh)

MUMPS Users' Group, 16th Annual Meeting Atlanta, Georgia, 8-12 Jun 87

Mr. Hodgins - "Descriptive Statistics Using the Veterans Administration File Manager as a Relational Database Management System"

Mr. Pugh - (Roundtable discussion) "Implementation of NOHIMS"

MUMPS Users' Group, 17th Annual Meeting New Orleans, Louisiana, 13-17 Jun 88

Mr. Hodgins - "Complete Gaussian Elimination Using the Veterans Administration File Manager"

Mr. Pugh - (Round table discussion) "Implementation of the Navy Occupational Health Information Management Systems (NOHIMS)"

Naval FAILSAFE Meeting Yuma, Arizona, 4 Feb 88

LCDR Armstrong - "Derivation of Critical Evaporative Coefficients from Physiological Parameters"

Navy Electronic Technicians School Naval Station, San Diego, California, 29 Mar 88

Dr. Goforth - "Nutrition and Weight Control Practices for Compliance with Navy PRT and Weight Standards"

Naval Environmental and Preventive Medicine Unit No. 5 Environmental Health Officers & Preventive Medicine Technicians, San Diego, California

12 Jan 88, LCDR Coyne - "Tropical Medicine in Central America"

17 Mar 88, LCDR Coyne - "Operation Brightstar"

**Naval Medical Command Symposium** Naval School of Health Sciences, Bethesda, Maryland,  
23-24 Feb 87

Dr. Hodgdon - "Medical Officers and the Physical Readiness Instruction"

**Naval Occupational Health and Preventive Medicine Workshop, 29th** Navy Environmental  
Health Center, Norfolk, Virginia, 28 Feb-5 Mar 87

Ms. T. Conway - Navy Health and Physical Readiness Program: A Longitudinal  
Evaluation"

Poster Presentations:

LCDR Helmkamp - "Audiometric Profile of Hearing Loss Among a Cohort of Civilian  
workers at the Naval Air Station, North Island, Naval Air Rework Facility"

LCDR Helmkamp - "The Effect of Time in a New Job on Hospitalization Rates for  
Accidents and Injuries in the U.S. Navy 1977-1983"

Dr. Cronan-Hillix - "Smoking and Physical Readiness, Prevalence of Smoking, and  
Smoking Prevention/Cessation Programs"

**Naval Occupational Health and Preventive Medicine Workshop, 30th** Navy Environmental  
Health Center, Norfolk, Virginia, 27 Feb-3 Mar 88

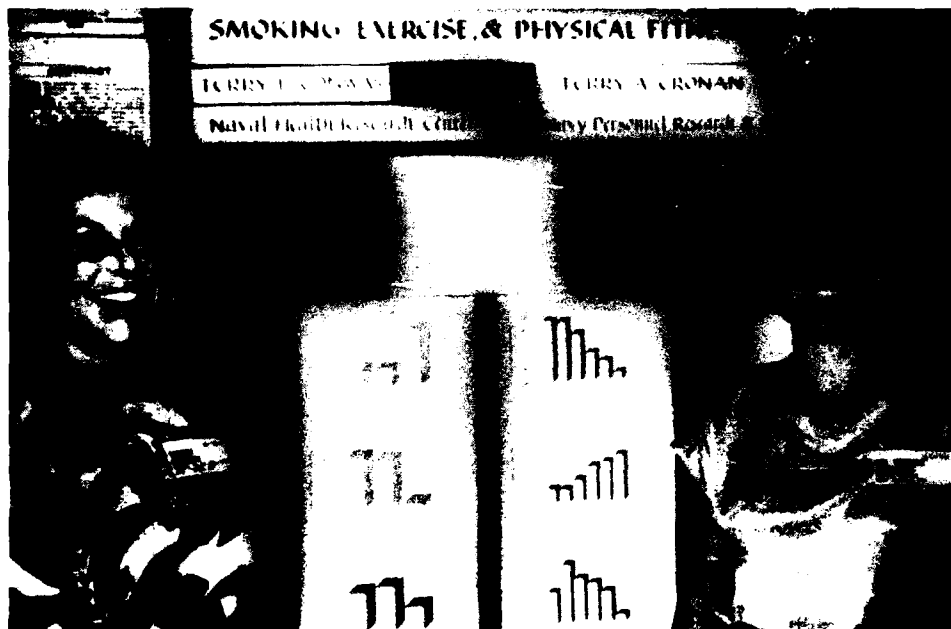
Ms. T. Conway - "Health and Physical Readiness Program: Overview of Ongoing  
Evaluation Efforts" (Invited Presentation)

Poster Presentations:

\*\* Ms. T. Conway - "Health and Physical Readiness: Differences Across the Four  
Navy Communities"

Dr. Cronan - "One-Year Follow-up Evaluation of the Smoking Prevention/Cessation  
Programs Implemented in Recruit Training" (With T Conway)

LT Steele - "The Distribution and Causes of Enlisted Personnel Deaths Aboard  
U.S. Navy Ships" (with Ms. Hilton and DS Nice)



Terry Conway

Dr. Cronan

\*\* Terry Conway received the Best Poster Entry Award in the area of Occupational  
Medicine for this poster.

**Navy Occupational Health Information Management System End Users Meeting, 4th** Navy Environmental Health Center, Norfolk, Virginia, 20 Sep 88

Dr. Nice - "F.E.C.A. Claims Management Process"

**Navy Personnel Research and Development Center** San Diego, California, 26 Jan 88

Ms. Hoiberg - "Women, Health, and Pregnancy in the U.S. Navy"

**Naval Reserve Unit, EODMU-Seven,** Naval Station, San Diego, California, 15 Jul 88

Dr. Goforth - "Beginning and Complying with Optimal Physical Fitness and Weight Control Programs"

**Naval Special Warfare Human Factors Engineering Conference,** Naval Coastal Systems Center, Panama City, Florida, 17-18 May 88

Dr. Hodgdon - "Physical and Psychological Profiles of U.S. Naval Special Warfare Personnel"

**Naval Special Warfare Master Planning Conference,** Panama City, Florida, 8-11 Aug 88

LCDR Banta - "6.2 and 6.3 Research Endeavors at NHRC"

**SPECWAR Workshop, Annual** (held at) Uniformed Services University of Health Sciences, Bethesda, Maryland, 21-22 May 87. (Coordinator) LCDR Banta.

Attending commands: Naval Medical Research and Development Command, Naval Sea Systems Command, Naval Special Warfare Training Center, Naval Health Research Center, Naval Medical Research Institute, Uniformed Services University of Health Sciences, NCSC, Navy Experimental Diving Unit, Fleet Representatives

LT Norton - "Research Project Update, Pre-entry Physical Conditioning for BUD/S Training"

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Presentations of research findings were made at colloquia and meetings at medical colleges and universities.

**The National Defense Medical College** Second Physiology Department, Tokorojawa, Japan, 1 Sep 87

Dr. Naitoh - "Electroencephalography and Biomagnetism Research in the Military"

**San Diego State University** San Diego, California

2 Apr 87, LT Kobus - "Electrophysiological Indices of Information Processing" (with M J Beeler & K Stashower)

5 Mar 87, Graduate Seminar in Physiological Psychology  
Dr. Vickers - "Definition of Research Issues and Approaches in Behavioral Immunology" (Invited Presentation)

21 Mar 88, Department of Anthropology  
Dr. Du Bois - "Employment Prospects in Applied Anthropology"

15 Apr 88, Department of Anthropology  
Dr. Palinkas - "Careers in Applied Anthropology"

**San Jose State University** San Jose, California, 8 Mar 88 (CAPT W. Price's Aviation Class)

Dr. Naitoh - "Sleep Management in Aviation"

Seattle University Health Information Administration Department, Seattle, Washington, 20 Apr 88

Ms. Hoiberg - "Implementing and Evaluating the Occupational Illness and Injury Contingency Management Process"

University of California, San Diego Clinical Epidemiology Conference, School of Medicine, Department of Community & Family Medicine, La Jolla, California, 11 Oct 88

Mr. Ko Shaw - "Serum Vitamin D and Colon Cancer: A Cohort Study"

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Research results were reported and discussions led with staff at these hospitals and clinics.

Council of Community Clinics Hypertension Control Program, San Diego, California, 18 Jun 88

Dr. Du Bois - "Development of Funding Resources for Future Areas of Research"

Grossmont Hospital (sponsored by Physical Therapy & Sports Medicine Department) La Mesa, California, 11 Mar 88 (La Jolla Half Marathon)

Dr. Goforth - "Optimum Training and Recovery Programs for Long Distance Races"

Naval Alcohol Rehabilitation Center, Miramar San Diego, California, 10 May 88

CAPT Lewis, Commanding Officer; CAPT Lee, Medical Director; CAPT Roldand, Medical Staff Officer; Dr. Rosevear, Clinical Supervisor

Dr. Du Bois - "Weight and Blood Pressure Study"

Naval Dental Clinic Naval Station, San Diego, California

1 May 88, CAPT Schloyer, Clinic Director and LT Hatch, Patient Management  
23 May 88, CAPT Bernhard, Department Head, Preventive Dentistry

Dr. Du Bois - "Weight and Blood Pressure Study"

Naval Medical Clinic Command Naval Station, San Diego, California

Behavioral Weight Control Seminars:

14 Oct 87: LT Norton - "Naval Physical Readiness Program, OPNAV Instruction 6110.1C"

4 Mar 88: Dr. Goforth - "Beginning and Complying with Optimal Physical Fitness and Weight Control Programs"

1 Mar 88, CDR Cooper, Executive Officer  
Dr. Du Bois - "Weight and Blood Pressure Study"

Navy Obesity Program:

Mar 88: Dr. Du Bois - "Obesity and Associated Risks for Disease"

Jun 88: Dr. Du Bois - "Obesity and Health Correlates"

Sep 88: Dr. Du Bois - "The Social Ecology of Obesity"

Naval Hospitals

Bethesda, Maryland, 23-24 Feb 87, "Conference on Evaluation and Management of Obesity"

Dr. Hodgdon - "Body Composition and the Physical Readiness Instruction" and "Exercise Physiology and the Physical Readiness Instruction"

San Diego, California, 26-27 Feb 87, "Conference on Evaluation and Management of Obesity"

Dr. Hodgdon - "Body Composition and the Physical Readiness Instruction" and "Exercise Physiology and the Physical Readiness Instruction"

Internal Medicine Group, San Diego, California, 30 Apr 87

Dr. Hodgdon - (Noon lecture) "Exercise and Fat Reduction"

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## Senior Officers' Reviews and Updates ... 1987 and FY-88\*

### DEPARTMENT OF THE AIR FORCE

Medical Readiness and Theatre Systems (MRTS) Program Office Col Harold Johnson USAF,  
MSC, (at NHRC), 15 Jan 87

Mr. Hermansen - "NOHIMS Brief"

### DEPARTMENT OF THE ARMY

Walter Reed Army Research Institute COL Bancroft, USA, Bethesda, Maryland, 12 May 87

Dr. Garland - "HIV Seropositivity Research In the U.S. Navy"

### DEPARTMENT OF DEFENSE

Defense Medical Systems Support Center LT Glaser (at NHRC), 15 Jan 87

Mr. Hermansen - "NOHIMS Brief"

DOD HFE TAG 20th Meeting Baltimore, Maryland, 9-11 May 88

Dr. Englund - "Overall NAVSUSOPS and Chemical Defense Program Brief"

SUSOPS SubTAG Meeting

Dr. Englund - "NAVSUSOPS and Chemical Defense Study Update"

Joint Working Group on Drug Dependent Degradation (JWDG3) in Military Performance;  
Quarterly Meeting San Antonio, Texas, 16-18 Feb 88

Dr. Englund - "Chemical Defense Program"

### MARINE CORPS

Division Surgeon, 1st Marine Division CAPT Greeb, Camp Pendleton, California,  
5 Aug 87

CAPT Chaney - "Overview of Research at NHRC"

Headquarters, Fleet Marine Force, Pacific CAPT Shima, Force Medical Officer, Camp H.  
M. Smith, Hawaii, 18 Sep 87

CAPT Chaney - "Overview of Research at NHRC"

1st FSSG, Fleet Marine Force CAPT Duforte, Group Surgeon, Camp Pendleton,  
California, 5 Aug 87

CAPT Chaney - "Overview of Research at NHRC"

1st Marine Amphibious Force, Fleet Marine Force CAPT Browning, Force Surgeon, Camp  
Pendleton, California, 19 Oct 87

CAPT Chaney - "Overview of Research at NHRC"

\* Any omissions are purely unintentional



**Marine Corps cont.**

**Marine Corps Air Station** , CAPT Maas, Brigade Surgeon, Branch Clinic, Kaneohe Bay, Hawaii, 18 Sep 87

CAPT Chaney - "Overview of Research at NHRC"

**Marine Corps Combat Development Center** U.S. Marine Corps War Fighting Center, CDR Sides, Quantico, Virginia, 19 Aug 87

CAPT Chaney - "Overview of Research at NHRC"

**Marine Corps Liaison Officer, Naval Ocean Systems Center** LtCol Bouldry, San Diego, California, 30 Nov 87

Dr. Englund - "Status of Chemical Defense Program"

**Marine Corps Mountain Warfare Training Center** Cold Weather Training, Bridgeport, California,

15-16 Sep 87: Colonel Stennick, Commanding Officer and Dr. McAninch, Director  
CAPT Chaney - "Overview of Research at NHRC"

30 Mar 88: Colonel Stennick, Commanding Officer  
LCDR Coyne - "Cold Weather Research Laboratory Installation"

**Marine Corps Recruit Depot, San Diego** MajGen Fulham, Commanding General, San Diego, California, 27 Aug 87

CAPT Chaney - "Overview of Research at NHRC"

**DEPARTMENT OF THE NAVY**

**Surgeon General** VADM Zimble

9 Oct 87 at Washington, DC  
Dr. Nice - "Recommendations for Shipboard Independent Duty Corpsmen"  
(with LT Steele)

22 Apr 88 at NHRC (during the SG's visit)  
W. Pugh - "Projects of the Medical Information Systems Department"

**Chief of Naval Operations** RADM Hagen (OP-933), Washington, DC, 18 Aug 87

CAPT Chaney - "Overview of Research at NHRC"

**Chief of Naval Technical Training** RADM Harlow, Millington, Tennessee, 18 May 88

Dr. Hodgdon (accompanied by Dr. Vickers) - "Stress Immunology Research"

**Commander, Anti-Submarine Warfare Wing, U.S. Pacific Fleet** RADM Davis, Naval Air Station, North Island, San Diego, California, 2 Jun 87

Dr. Nice - "Results of Baseline Health and Physical Readiness Data at NAS North Island" (with LT Chesson)

**Commander, Carrier Group One** RADM Carlsen, NAS North Island, 9 May 88

LCDR Armstrong - "Performance Enhancement during Sustained Operations"

**Commander in Chief, U.S. Pacific Fleet** Pearl Harbor, Hawaii

21 Sep 87, RADM Marlor, CINCPACFLT Surgeon  
CAPT Chaney - "Overview of Research at NHRC"

22 Sep 87, Mr. Gilbreath, SCIAD-NSAP  
CAPT Chaney - "Overview of Research at NHRC"

**COMDESRON 31** CAPT Fitzgerald (onboard USS Cushing (DD-985)), 17 May 88

LCDR Armstrong - "Performance Enhancement during Sustained Operations"

**Commander, Naval Medical Command** CAPT Stek (NAVMEDCOM-241), Washington, DC,

11 May 87: Dr. Garland - "HIV Seropositivity Research in the U.S. Navy"

31 Jul 87: CAPT Chaney - "Overview of Research at NHRC"

**Commander, Naval Medical Command Southwest Region** RADM Sears, San Diego, California,  
7 Oct 87

Dr. Nice - "In-patient Hospitalization Study"

**Commander, Naval Surface Force U.S. Pacific Fleet** CAPT Crim, Force Medical Officer,  
Naval Amphibious Base, Coronado, California

6 Apr 87, Mr. Pugh - "Progress in Developing a Medical Information System for  
Ships" and - "Review of the SNAP Automated Medical System Review Con-  
ducted Aboard the USS DAVID R. RAY (DD-971)"

11 Sep 87, CAPT Chaney - "Overview of Research at NHRC"

13 Jul 88, Mr. Pugh - "Disease Non-battle Injury Project"

**Commander, Naval Training Center, and Commander Naval Base, San Diego** RADM Hacker,  
San Diego, California, 30 Dec 1987

11 Sep 87, CAPT Chaney - "Overview of Research at NHRC"

**Navy Environmental Preventive Medicines Unit No. 5** CAPT Hanzel, 15 Jan 87, San  
Diego, California, 11 Sep 87

CAPT Chaney - "Overview of Research at NHRC"

**Navy Environmental Preventive Medicines Unit No. 6** Acting Officer in Charge, Pearl  
Harbor, Hawaii, 21 Sep 87

CAPT Chaney - "Overview of Research at NHRC"

**Fleet Anti-Submarine Warfare Training Center, Pacific** Commanding Officer, San Diego,  
California

22 Jan 87, LT Kobus - "Past, Present, and Future Research at NHRC"

3 Aug 87, CAPT Chaney - "Overview of Research at NHRC"

2 Dec 87, LT Kobus - "The Use of Low Level White (LLW) Lighting in the CIC  
Area" (demonstration to staff)

2 Mar 88, LT Kobus - "Research Update"

Fleet Surgeon, Commander in Chief, U.S. Atlantic Fleet RADM Lestage, Norfolk,  
Virginia, 16 Apr 87

Dr. Nice - "Personnel Qualifications Standards for Shipboard Independent Duty  
Corpsmen" (with LT Steele)

Naval Health Sciences Education and Training Command CAPT Herschfeld, Commanding  
Officer, Bethesda, Maryland, 14 Apr 87

LT Steele - "Evaluation of the Personnel Qualification Standard Program for  
Independent Duty Hospital Corpsman" (with Dr. Nice)

Medical Doctrine Center CAPT Shivertaker (MEDCOM OOD), Director

7 May 87 at Washington, DC  
LCDR Helmkamp - "Disease and Non-battle Injury (DNBI) Surveillance System",  
- "Outpatient vs. Inpatient Medical Data"  
- "NHRC M.I.S. Capabilities"  
(with Dr. Palinkas, Mr. Miller, and Mr. Gorham)

Medical Doctrine Center CAPT Shivertaker (MEDCOM OOD), Director, cont.

10-11 Aug 88 at NHRC  
Mr. Pugh - "Disease and Non-battle Injury Project"

Naval Aerospace Medical Research Laboratory (Staff), Pensacola, Florida, 15-16 Jul 87

Dr. Naitoh - "Research Coordination of Navy Aviation SUSOP Project"

Naval Air Field El Centro, California, 20 Nov 87

LT Riedy - "Ways to Improve Personal Fitness and Health"

Naval Air Force, U.S. Pacific Fleet Naval Air Station, North Island, San Diego,  
California

23 Feb 87, Health Promotion Campaign Committee  
LT Norton - "Fighting Fit"

2 Jun 87, VADM Service, Commander  
Dr. Nice - "Results of Baseline Health and Physical Readiness Data  
at NAS North Island" (with LT Chesson)

28 Jul 87, CAPT Oshlund, Force Medical Officer  
CAPT Chaney - "Overview of Research at NHRC"

Naval Air Stations

Moffett Field, Commanding Officer, San Jose, California, 11 Mar 87  
Dr. Nice - "Health and Physical Readiness Data Collection Endorsement"

North Island-Outlying Field, Khaki Conference, Imperial Beach, California,  
1 Oct 87  
LT Riedy - "Physical Fitness and Nutrition"

**Naval Hospitals**

22 Jan 87, CDR Daniell, Navy HIV Project Officer, NH, Bethesda, Maryland  
LCDR Helmkamp - "NHRC's Role in Developing and Maintaining the Navy's AIDS  
Data Registry"

31 Jul 87, CAPT Wesolowski, Commanding Officer, NH, San Diego, California  
CAPT Chaney - "Overview of Research at NHRC"

**Naval Medical Data Services Center** CAPT Stanz, Commanding Office, Bethesda,  
Maryland, 18 Aug 87

CAPT Chaney - "Overview of Research at NHRC"

**Naval Medical Research and Development Command** Bethesda, Maryland

21 Jan 88 at NHRC, CAPT Kilpatrick, Special Assistant for Overseas Laboratory  
Affairs

Mr. Shaw - "Present Status and Future Direction of the Navy HIV Clinical  
Evaluation and Epidemiology Project"

14 Apr 88 at NHRC, CAPT Gaugler & CAPT Melaragno (during Command Inspection)

W. Pugh - "Status of DNBI Project"

Dr. Palinkas - "Infectious Disease Surveillance and Epidemiologic Research"

Dr. Englund - "NAVSUSOPS Program"

**Naval Medical Research Institute** Epidemiology Division, Infectious Disease  
Department, Bethesda, Maryland

17-18 Jun 87, CDR Sipple and Ms. Cross

Dr. Palinkas - "Infectious Disease Surveillance; Navy HIV (AIDS) Database  
System. (with LCDR Helmkamp, Mr. Hilbert, Mr. Miller)"

25 Apr 88, CDR Hyams

Dr. Palinkas - "Infectious Disease Surveillance and Epidemiologic Research"

**Naval Military Personnel Command** CDR Scaramozzino and LT Weber (N-68), Washington,  
DC, 25 Feb 87

Dr. Cronan-Hillix - "Health and Physical Readiness: Smoking in Recruit Training"  
(with Ms. Conway and LT Chesson)

**Naval Ocean Systems Center** CAPT Schweizer, Commander, San Diego, California,  
27 Jul 87

CAPT Chaney - "Overview of Research at NHRC"

**Naval Special Warfare Center** Naval Amphibious Base, Coronado, San Diego, California

12 Jan 87, 8 Apr 87, and 3 Jun 87, RADM Roop (Ret.) and CAPT Bailey,  
Commanding Officer

LT Norton - "Update Analysis of Conditioning and Selection Parameters of  
BUD/S Trainees"

4 May 87, LCDR Kieth, Training Officer; LT Morris and LT Morrison, First Phase  
Training Officers; LTJG Simett, Assistant Training Officer

LT Norton - "Update Analysis of Conditioning and Selection Parameters of  
UD/S Trainees and Direction of Anticipated Research"

LT Norton (Physiology Advisor) - "BUD/S Physical Training Workshop"

Naval Special Warfare Center NAB Coronado, San Diego, California (cont.)

28 Jul 87, CAPT Bailey, Commanding Officer  
CAPT Chaney - "Courtesy Call"

5 Aug 87 (at NHRC), RADM Roop (Ret.) and LCDR Kieth  
LT Norton - "Update Analysis and Future Goals (FY88) of Conditioning and  
Selection Parameters of BUD/S Trainees"

16 Sep 87, BUD/S Steering Committee (ROOP Group)  
LT Norton - "Update Analysis of Conditioning and Selection Parameters of  
BUD/S Trainees"

29 Feb 88, CAPT Bailey, Commanding Officer  
LCDR Armstrong - "Update on BUD/S Research"

Naval Special Warfare Group Two Naval Amphibious Base, Little Creek, Norfolk,  
Virginia, 28 Apr 87

Dr. Goforth - "Optimal Dietary and Exercise for Fitness and Weight Control"

Naval Station EMTS Class, San Diego, California, 19 Nov 87

LT Riedy - "Physical Fitness and Nutrition"

Naval Submarine Medical Research Laboratory CAPT Harvey, Commanding Officer, Groton,  
Connecticut, 13 Aug 87

CAPT Chaney - "Overview of Research at NHRC"

Naval Surface Warfare CAPT Jakowski, Director, Special Warfare Branch, Deputy CNO,  
Pentagon, Washington, DC, 8 Dec 87

Dr. Hodgdon - "NHRC 6.3 and 6.2 Research Progress in Special Warfare"

Naval Surface Weapons Center Dr. Marshall, Director, NSAP, Washington, DC, 17 Aug 87  
(with CAPT Houk and CAPT Melaragno)

CAPT Chaney - "Establish Mechanism for NSAP Taskings"

Naval Surface Weapons Center White Oak, Maryland, 25-27 Jan 88

Dr. Englund - (Invited Participant) "Chemical/Biological Warfare Technology and  
Intelligence Update"

Office of Naval Technology (at Navy Personnel Research & Development Center) San  
Diego, California, 6-7 Apr 88

LT Kobus - "Biopsychometrics Research Review"

Puget Sound Naval Shipyard Personnel Director and Disability Claims Manager,  
Bremerton, Washington, 21 Apr 88

Ms. Hoiberg - "Benefits of the Occupational Illness and Injury Contingence  
Management Process"

Recruit Training Command San Diego, California

- 9 Feb 87, CAPT French and CAPT Saari (Commanding Officers), and CDR Cameron  
Dr. Cronan-Hillix - "Recent Research in Recruit Training" (with Dr.  
Vickers)
- 17 Aug 88, General Military Training for Staff (POC: GMM1 Stanton)  
Ms. Beckett - "Development of and Rationale for the Navy's Body Fat and PRT  
Standards"

SEAL DELIVERY VEHICLE-TEAM ONE (SDVT-1) Naval Amphibious Base, Coronado, California

- 13 Mar 87, Dr. Goforth - "A Comparison of the Physiological Response of SDV  
Operators Wearing Thinsulate and Texolite Thermal Protection Garmets"
- 14 Apr 87, LT Woodruff, Operations Officer, and Officer in Charge of  
Alpha Platoon  
Dr. Goforth - "Results of Physical and Psychological Profile Testing of  
SDVTs-ONE Alpha Platoon"
- 13 May 87, Dr. Goforth - "Optimal Nutritional and Exercise Practices for SDV  
Mission Performance and Longevity"
- 18 May 87, LCDR Yarborough, Executive Officer, and Officer in Charge of  
Charlie Platoon  
Dr. Goforth - "Results of Physical and Psychological Profile Testing of  
SDVT-ONE Charlie Platoon"
- 30 Jun 87, LT Brinkman, Officer in Charge, and Bravo Platoon  
Dr. Goforth - "Results of Physical and Psychological Profile Testing of  
SDVT-ONE Bravo Platoon"
- 3 Aug 87, CDR Smith and CDR Clapp (Present and Relieving CO)  
Dr. Goforth - "NHRC Biomedical Research--Past, Present, and Future for  
Enhancement of Mission Performance in the Cold"
- 9 Sep 87, LT Brinkman, Officer in Charge, and Bravo Platoon  
Dr. Goforth - "Results of a 10-Day Cold Habituation Period upon the Cold  
Pressor Response of SDVT-ONE Bravo Platoon Personnel"
- 15 Dec 87, LT Foster, Officer in Charge, and Bravo Platoon-88  
Dr. Goforth - "Results of Psychological and Physiological Profiling of SDV  
and SEAL Operators"
- Dr. Goforth - "Preliminary Analysis of Naval Special Warfare Cold Weather  
Missions and Personnel Responses"
- 31 Mar 88, LT Ruhelin, Bravo Platoon Leader  
Dr. Goforth - "Optimal Nutritional and Exercise Practices for SDV Mission  
Performance and Longevity"
- 6-7 Apr 88, CDR Clapp, CO & MAJ Clifford, British SBS CO (SDV Team)  
Dr. Goforth - "Physiological Responses and Equipment Performed during Pro-  
longed Cold Dives" (Technology Transfer brief)
- 24 Aug 88, SDVT-ONE: LCDR Presswood, Ops Ofcr; LT Sloat, Charlie Platoon Leader  
Dr. Goforth - "Physiological Responses to Prolonged Cold Exposure--  
Dehydration and Efficacy of Glycerol as a Potential Intervention"
- 1 Sep 88, SDVT-ONE: LT Sloat, Charlie Platoon Leader  
Dr. Goforth - "Optimal Nutritional and Exercise Practices for SDV Mission  
Performance and Longevity"

Service School Command NTC, San Diego, General Military Training for Staff (POC: LT Cuyjet), 14 Aug 88

Ms. Beckett - "Development of and Rationale for the Navy's Body Fat and PRT Standards"

USS CAYUGA (LST-1186) (Aboard Ship at Sea), 10-14 Aug 87

LT Chesson - "Low Level White Lighting" (Evaluation)

LT Chesson - "Navy's PFT Program" (Officer and CPO Training)

USS RAMSEY (FFG-2) Wardroom Staff, San Diego, California, 27 Jul 87

LT Kobus - "Low Level White Lighting"

USS SIDES (FFG-14) Wardroom Staff, San Diego, California, 12 Aug 87

LT Kobus - "Low Level White Lighting"

USS VINCENNES (CG-49) Staff, Long Beach, California, 12 Aug 87

LT Riedy - "OPNAVINST 6110.1C, Physical Readiness Program"

USS INFLICT (MSO-456) Commanding Officer, Sep 88

LCDR Banta - "SUSOP/Heat Stress Study"

#### OTHER

Applied Psychology Unit Dr. R. T. Wilkinson, Cambridge, England, 30 Sep 88

Dr. Naitoh - "Sleep Loss and Performance Research"

Army HQ Defence Command LtCol Bjorn Odd Koldsland, M.D., Senior Medical Staff Officer, Brigade North, Norway, 16 Sep 88

LCDR Coyne - "Current and Future Medical Research"

Office of Defense Cooperation, U.S. Embassy Col D. Konopatzke, Chief ODC, APO New York, 20 Sep 88

LCDR Coyne - "Cooperative Agreement between NHRC and Norwegin Army"

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## 1987 and FY-88 Lectures and Scientific Colloquia

The scientific colloquia continue to provide an opportunity for interaction among the total NHRC staff as well as scientific presentations or special lectures by speakers outside the Center and Navy.

Initiated in 1977, the Annual Ardie Lubin Memorial Lecture provides an opportunity to honor Ardie as a scientist and to remember him as a valued colleague and friend.

### 11th Annual Ardie Lubin Memorial Lecture

20 May 87:

"Reliability of Sleep Measures"

Professor Wilse B. Webb

Department of Psychology  
University of Florida  
Gainesville, Florida

### 12th Annual Ardie Lubin Memorial Lecture

3 May 88:

"The Eye: Reflector of Information Intake and Processing"

John Stern, Ph.D.

Department of Psychology  
Washington University  
St. Louis, Missouri



Dr. Gunderson, Chief Scientist  
Mrs. Ardie (Anny) Lubin  
Professor Wilse B. Webb



Dr. Ardie Lubin's brother, Sidney Lubin  
and wife, Barbara



**1987-FY88 Lectures and Scientific Colloquia cont.**

**Visiting Lecturer**

28 July 87: "Integrated Electromyographic Information  
and Practical Applications"

Jean Boucher, Ph.D.

Professor, Department of Kinanthropology  
Universite de Quebec a Montreal  
Montreal, Canada

**Staff Colloquium**

15 December 87: "Assessments of Perceived Control in Health"

Kenneth A. Wallston, Ph.D.

Professor of Psychology  
School of Nursing  
Vanderbilt University  
Nashville, Tennessee

## Collaboration with other Facilities during 1987 and FY-88

On various occasions and in support of work on current DD-1498 research work units, members of NHRC departments establish collaborative associations with personnel in other government and nongovernment facilities. A summary of these associations follows.

### MEDICAL INFORMATION SYSTEMS DEPARTMENT (CODE 20)

(1987) Mr. William Pugh demonstrated the Combat Casualty Care Medical Information System (CC/MIS) for CDR Hand, U.S. Marine Corps Development Center, Quantico, Virginia; LCDR R. J. Fletcher (Code MED), Headquarters U.S. Marine Corps, Washington, DC; and Major D. M. Jackson, 1st FSSG, Camp Pendleton, California. Mr. Pugh also participated in the implementation of NOHIMS as an operational system at the Portsmouth Naval Shipyard, Portsmouth, New Hampshire.

(1987) Mr. Dallas Hodgins' four computer programs, "Software for Descriptive Statistics" to generate descriptive statistics (mean, standard deviation, etc.) and a random number generator, have been incorporated into the Veteran's Administration File Manager Data Base Management System for use in 169 VA Hospitals throughout the United States.

(1988) May 16-18, this Department hosted at NHRC, a meeting of the Audiology Review Committee. Audiologists from different Navy facilities met to discuss the requirements for an audiology module for NOHIMS.

### OCCUPATIONAL MEDICINE DEPARTMENT (CODE 30)

(1987) Dr. Lawrence Palinkas and the Social Epidemiology Program staff have been collaborating with the Epidemiology Division, Infectious Diseases Department, Naval Medical Research Institute (NMRI) in the area of infectious disease surveillance and epidemiologic support to ongoing infectious disease research underway at NMRI and the overseas Naval Medical Research Units. Initial efforts in this program have been devoted to a study of the epidemiology of hepatitis in the U.S. Navy.

(1987) LCDR James C. Helmkamp, MSC, USN demonstrated, with LT R. Glaser, MSC, USN from the Defense Medical System Support Center (DMSSC), the SNAP Automated Medical Systems (SAMS), to 20 Independent Duty Corpsmen and medical officers on 4 February 87 at San Diego, California. He also served as NMRDC's representative on SAMS Working Group Defining System Requirements and Functions for DMSSC, held 13-17 April 87 at Alexandria, Virginia.

(1988) Utilizing inpatient medical and service history files at NHRC, data were analyzed by Dr. Palinkas for collaboration with: (1) CDR K. C. Hyams, of the Naval Medical Research Institute, Bethesda, in an epidemiologic investigation of risk factors and trends in incidence rates of viral hepatitis in the U.S. Navy, 1975-1984, among active-duty enlisted Navy personnel, and (2) LCDR G. Gray, of Walter Reed Army

### **Occupational Medicine Department (Code 30)**

Institute of Research, in an epidemiologic investigation of risk factors and trends in incidence rates of varicella (chicken pox) among active duty enlisted Navy personnel in the U.S. Navy, 1975-1984.

(1988) Regarding Women and Health Aboard Ship, Dr. Palinkas, in collaboration with CDR Gibbon, (OP 933D1), analyzed data collected from samples of LANTFLT and PACFLT ships with women personnel, calculating incidence rates and rates of medical events such as Medevacs, sickcall visits, and prescriptions filled.

(1988) Dr. Palinkas supplied data from the Da-Nang Surgical Data Base to CAPT Felix of the Navy Medical Doctrine Center, with reference to protocols for treatment of combat-related vascular injuries.

### **HEALTH PSYCHOLOGY DEPARTMENT (CODE 40)**

(1987) With regard to the "Occupational Illness and Injury Disability Cost Containment Evaluation" project, Ms. Anne Hoiberg met 27-29 May with Dr. Thomas Bonifield, Dennis Vogt, Sharon Lundin, and Angela Quinn in Seattle, Washington. During this visit, discussions on how to develop check lists to enable easy capture of 1988 OPTICOMAP data, and evaluations of a compensation case were conducted. During her 2 September visit with CAPT J. H. Erickson, USPHS, Joanne Knox, Mary Gregory and John Page at Norfolk, Virginia, discussions on how the Navy manages cases of hearing loss were held. At both meetings discussions were held to determine how 1986 data were to be retrieved for this USPHS Project.

(1988) Ms. Hoiberg served as consultant to researchers at the Johns Hopkins University for study on the long-term health effects associated with diving.

(1988) Ms. Terry Conway serves as a member of the LEAAP (Life Enhancement Afloat/Ashore Program) technical committee. Members review evaluation instruments and provide advice on evaluation methodology.

(1988) Dr. Barbara DuBois, a National Research Council Associate, in support of her two research subprojects on Health Risks of Hispanic Women Workers and Chronic Disease Prevalence in Ethnic Minority Elders, collaborations are as follows: (1) on ethnic minority aging and chronic disease prevalence with Dr. P. Stanford, Director, Center on Aging, San Diego State University (SDSU), and Dr. E. Barrett-Conner, Department Head, Family & Community Medicine, UCSD School of Medicine, La Jolla; (2) on evaluating health behaviors and health status in Hispanic women workers in Mexico, with Dr. M. Hovell, Division Head of Health Promotion, Graduate School of Public Health, SDSU; (3) to conduct health assessments in Pan-Asian elderly, with Ms. B. Yip, Executive Director of the San Diego Union of Pan Asian Communities, and (4) with Ms. K. Waters, Hypertension Control Program Director, San Diego Council of Community Clinics on establishing population estimates for conducting future research evaluations.

### Health Psychology Dept (cont.)

With reference to the Smoking Cessation Evaluation and Weight and Blood Pressure Studies of the Health and Physical Readiness research summary, Dr. Du Bois' collaboration with Ms. Carolyn Cappello of Education and Training, Naval Medical Clinic, San Diego, is a 3-year analysis of the Navy's smoking Cessation Program and its effectiveness with the introduction of Nicorette chewing gum. Collaborations on the Weight and Blood Pressure study includes (1) Ms. Cappello, working with overweight subjects in her weight reduction program; (2) Dr. William Rosevear, Naval Alcohol Rehabilitation Center at NAS Miramar, working with both in- and out-patient obese subjects, and (3) CAPT Schloyer of the Naval Dental Clinic, Naval Station, San Diego, with non-obese subjects.

Dr. Brock Kilbourne, a National Research Council Associate, in support of his research subproject, a personnel survey to assess psychological factors associated with hospitalization for both short- and long-term patients, collaborated with CDR E. Law, Naval Hospital, Camp Pendleton to conduct the study.

### BEHAVIORAL PSYCHOPHARMACOLOGY DEPARTMENT (CODE 50)

(1987) This Department continues to collaborate with an international group of researchers in studies of jet lag effects on sleep, mood, and performance. The research is coordinated by LtCol R. Curtis Graeber, USA, of the NASA-Ames Research Center, Moffett Field, California. Other principal investigators are: Group Captain Anthony N. Nicholson, Royal Air Force Institute of Aviation Medicine, Farnborough Hants, United Kingdom; Mitsuo Sasaki, M.D., Japan Air Lines and Jikei University School of Medicine, Tokyo, Japan; Hans M. Wegmann, M.D., Institute of Aerospace Medicine, Cologne, Federal Republic of Germany; and Dr. Cheryl Spinweber of NHRC. During 1987, the group focused on analyses of data collected last year from commercial air crews who flew long haul flights along the polar routes.

(1987) During the month of February, John R. Ruddy, M.D., the 1986-87 Fellow in Sleep Disorders Medicine at Scripps Clinic and Research Foundation, La Jolla, participated in both research and clinical work at the sleep lab.

(1987) In an ongoing research project, and her work with the BUDS program, Dr. Spinweber was videotaped presenting a Sleep Hygiene Class as part of the basic indoctrination training program. This video is now shown to each BUDS class. Dr. Spinweber and Ms. Julia Bellune are studying the sleep of these BUDS students and have found that the Sleep Hygiene Class is effective in improving sleep quality during the rigors of BUDS training.

(1987) In October this Department began collaborating with Dr. Michael Bonnet of the VA Hospital, Long Beach, California in a three-year research project entitled, "Effects of Psychopharmacological Agents on Performance."

(1988) This Department has begun collaborative interaction on psychopharmacological studies with Dr. William Morey of the the Naval Aerospace Medical Research Laboratory, who will visit and collaborate on data collection at NHRC in FY 89.

### **Behavioral Psychopharmacology Department (cont.)**

(1988) Dr. David McDonald, an American Society for Engineering Education (ASEE) sponsored summer faculty member from the University of Missouri-Columbia, worked in the sleep lab May through August. Collecting sleep data from 20 subjects, he utilized the Oxford Medilog sleep recorder and tested the reliability of the Oxford automated sleep stager in scoring the different stages of sleep. He and the department staff are analyzing the resultant data.

In July 1988, 25 high school science students, winners in the Secretary of the Navy sponsored 1988 Naval National Science Awards Program, received a science-oriented visit to San Diego and visited the Department as part of a visit to the Naval Hospital and were given briefs on the Department's science-oriented activities. The staff received a Letter of Appreciation from the Office of the Chief of Naval Research, RADM J. R. Wilson, Jr., USN.

Former Chief Scientist, Dr. Laverne C. Johnson continues to work with the Behavioral Psychopharmacology Department as a Visiting Scientist.

### **ERGONOMICS DEPARTMENT (CODE 60)**

Beginning in 1987 to present, LT David Kobus, MSC, USN, continues his collaborative work with Dr. Larry Lewandowski of Syracuse University on the Bimodal Information Processing project and with Dr. Saul Luria of the Naval Submarine Medical Research Laboratory, Groton, Connecticut, on the Low Level White Lighting (LLWL) on surface ships project. To collect LLWL data, LT Kobus went to sea aboard the USS RAMSEY (FFG-2) 13-18 August 87, and LT Charles Chesson II, MSC, USNR, aboard the USS CAYUGA (LST-1186) 10-14 August 87.

(1987) During the period 6-10 April, Dr. Paul Naitoh met with Dr. Robert Angus from Defence and Civil Institute of Environmental Medicine, Downsview, Canada, to discuss joint research efforts on sustained/continuous operations and to write a joint research paper on naps under a sponsorship of The Technical Cooperation Program (TTCP), UTP4 subpanel on "Integration of Man/Machine Systems." UTP4 is a subgroup of TTCP--a collaborative group of research managers and policy makers from Australia, Canada, Great Britain, New Zealand, and the United States. The purpose of TTCP is research and development coordination and dissemination among these nations. The UTP4 is chartered by TTCP to exchange technical information and to coordinate further research, among others, on the sustained continuous battle.

(1987) Dr. Naitoh continues his collaboration with Dr. Gregory Lewis of Navy Personnel Research and Development Center on the "Application of Evoked Magnetic Fields as High Technology Personnel Selection and Job Performance Techniques."

(1987) Dr. Naitoh's collaboration with other agencies include participation in: the 6th Sustained/Continuous Operations SUB TAG meeting, Continuous Operations (CONOPS) Research Progress Review, held at Walter Reed Army Institute of Research, Washington, DC, 2-3 November 1987; the Workshop on the Effects of Combined Fire

### **Ergonomics Department (cont.)**

Products on Human Physiological and Psychological Performance, held at Naval Submarine Medical Research Laboratory, Groton, Connecticut, 16-17 November, and the Coordinating Meeting of the Office of Naval Technology Biopsychometrics Research Program held at Navy Personnel Research and Development Center, San Diego, California 15-16, December.

(1987) Dr. Carl Englund's collaboration with other agencies on the Joint Working Group on Drug Dependent Degradation (JWGD3) include NAMRL at Pensacola, Florida, on 20-22 January, co-ordination of mutual research plans for the Chemical Defense (CD) Program, and participation on 24 February in Level I and II Technical Advisor Groups (TAG) for Chemical Defense Program for development of follow-on Tri-Service UTC Performance Assessment Battery (PAB). On 29 April, he presented his Quarterly Report to JWGD3 in Dayton, Ohio. On 8 December, Dr. Englund provided an overview of SUSOPS and CD research by NHRC to a CINCPACFLT and COMTRAPAC Chemical Defense Briefing sponsored by Navy Personnel Research and Development Center.

(1987) On 25 February, Dr. Englund coordinated the DOD Human Factors Engineering Technical Advisor Group (DOD HFE TAG) Sustained Operations (SUSOPS) SUB TAG field research activities with Walter Reed Army Institute of Research.

(1987) Mr. David Ryman developed, for the Walter Reed Performance Assessment Battery, computer program disks which includes (1) Wilkinson's Four Choice Task, (2) NHRC's Mood Questionnaire, (3) the Single Digit Code Substitution Task, (4) the Simple Reaction Time (SRT) Task, and (5) the Sleep, Work, and Thermal Scales with Fatigue, Symptom and Vital Sign Questions. These disks were sent to LT Reeves at Naval Aerospace Medical Research Laboratory, Pensacola, Florida; Dr. Thomas, at Naval Medical Research Institute, Bethesda, Maryland, and Dr. Thorne, at Walter Reed Army Institute of Research, Washington, DC, and U.S. Army Research Institute of Environmental Medicine (ARIEM), Natick, Massachusetts. Mr. Ryman has also consulted with Dr. Hedley of ARIEM on the length of different Mood Questionnaires administered during the SUSOPS research. Dr. Hedley has sent the Environmental Symptom Questionnaire, developed at ARIEM, to be adapted into the computer for the chemical defense studies.

(1988) Dr. Naitoh met with Professor Daniel F. Kripke of the San Diego Veterans Administration (VA) Medical Center on a VA-DOD collaborative three-year research effort "Bright Light Amelioration of Shift Work" which begun in April.

At the Naval Aerospace Medical Research Laboratory (NAMRL), Dr. Naitoh and Matt Sinclair participated in the initial data collection of two NAMRL work units "Development of Biomedical Countermeasures of Performance Degradation during Sustained Flight Operations" and "Effects of Psychophysiological Countermeasures on Performance Decrement during Sustained Flight Operations," during the period 11-22 July 1988.

**APPLIED PHYSIOLOGY DEPARTMENT (CODE 70)**

(1987) With reference to their cold water tolerance studies, Dr. James Hodgdon and LT James P. Norton, MSC, USNR, collaborated with Ms. Lynn Cox, world famous long distance, channel swimmer, who on 9 January, gave a presentation on her experiences in training for enhancement of swimming in cold water. Later in the year, she completed the first successful crossing (swimming) of the Bering Strait.

(1987) Dr. Hodgdon, Dr. Harold W. Goforth, and LT Mark Riedy, MSC, USNR, collaborate with Dr. Arthur Vailas, Department of Kinesiology, University of California, Los Angeles, on a contract project "Development of Pre-training Physical Conditioning Program and Predictive Markers of Connective Tissue Damage in BUDS Trainees," looking at markers of connective tissue stress during exercise and military training. NHRC collected and prepared the blood samples while UCLA performed the analyses.

(1987) LT Norton continued his Basic Underwater Demolition (BUD/S) collaboration with the Uniformed Services University of the Health Sciences (USUHS), in conjunction with IR work unit, "Pre-entry Physical Conditioning for BUD/S Training." For BUDS Classes 141 and 143, LT Norton scheduled, monitored and assisted in data collection for BUDS trainees pre- and post-hell week. Blood and urine data collection were handled by NHRC Department Corpsmen. On 8 October he met with Dr. Patty Duester and CPT Bonnie Smoak, USA, concerning future collaboration and combination of extensive BUDS data bases for future technical reports and journal articles. Dr. Hodgdon also met with Dr. Deuster on indicators of stress and nutritional status in BUDS trainees. This cooperative effort entails NHRC collecting the dietary intake data on diet cards developed at USUHS, from operational SDV SEALS. USUHS will have the cards analyzed under their existing contract. This information is to be included in a year end report to NMRDC's sponsor on nutritional practices of SDV SEAL Personnel.

(1987) In conjunction with a U.S. Army reimbursable research project "Bioenergetics of Exercise," CDR Charles Gray, MC, USN, has continued his collaborative research efforts with the School of Medicine, University of California at San Diego, La Jolla; School of Veterinary Medicine, University of Missouri, Columbia; Veterinary College of Physiology and Pharmacology, Washington State University, Pullman; and Mayo Foundation Clinic, Rochester, Minnesota.

(1987) Tom Schmidt and Mark Vandervoort, of Lockheed, Marine Division, San Diego, through a cooperative effort shared their data related to thermal protection systems and hypothermia in SEALS exposed to 4 degree C water. Dr. Goforth assisted in testing an active warming system for divers wearing dry suits in 3-4 degree C water. Dehydration and urine data collected from cold divers under various physiological conditions are shared, and results from these joint cooperative efforts will be published.

(1987) In December, Dr. John Sterba of the Naval Experimental Diving Unit, Panama City, Florida, shared his data and discussed findings and loaned thermal

**Applied Physiology Department (cont.)**

monitoring equipment and two sets of passive thermal protection garments to use with divers during prolonged (300 min) exposure to cold water (3-4 degrees C).

(1987) In December information exchanges from Naval Coastal Systems Command, Panama City, Florida, were conducted by Paul Pettogrezzo on Cold Weather Mission problems, and by Charles Walsh, NAVSPECWAR Personnel with Dr. Goforth's profile analysis on SEAL somatotypes and SDV human factors.

(1987) Cold researchers, Drs. Tom Doubt and Bob Weinberg of Naval Medical Research Institute, Dive Medicine Department, Bethesda, Maryland, exchanged their thermal and hydration data with Dr. Goforth and discussed thermal monitoring methods.

(1988) Dr. Goforth conducted a field test for the "Design, Development and Testing of a High Fat Diet during Cold Weather SEAL Exercises" project using cold weather rations provided by U.S. Army Research Institute of Environmental Medicine (USARIEM) Natick, Mass., to evaluate their acceptability and effectiveness for SEAL Cold Weather Operations. Commercially available dehydrated rations were used to examine the physiological effects of high fat and high carbohydrate diets during field exercises.

(1988) In connection with two ongoing research projects, "Development of Pre-training Physical Condition" and "Predictive Markers of Connective Damage in BUD/S Trainees," Dr. Goforth with Drs. Art Vailas and Bert Mandelbaum of UCLA, directed and monitored human subjects during a 10-week running program and collected and prepared blood samples for analyses performed by UCLA under a contract.

(1988) Dr. Hodgdon carried out studies investigating the use of serum hydroxyproline as an indicator of connective tissue stress in collaboration with Dr. Arthur Vailas, Department of Kinesiology at University of California Los Angeles.

(1988) Data was shared between Tom Schmidt and Mark Vandervoort of Lockheed Marine Division, San Diego, relating to thermal protection systems and hypothermia in SEALs exposed to 4 degree C water; testing of active warming system for divers wearing dry suits in 3-4 degree C water, and collection of dehydration and urine data from cold divers under various physiological conditions.

(1988) Dr. Goforth and LCDR John Sterba, MC USN, of the Naval Experimental Diving Unit, Panama City, Florida, shared data, discussed findings and efficacy of equipment used by divers during prolonged (300 min) dives in cold water (4 degrees C).

Collaborative research efforts of U.S. Army reimbursable research project "Bioenergetics of Exercise" by CDR Charles Gray, MC, USN, continued in 1987 and completed in 1988, were with 1) Col. David Schnakenberg, MSC and LCol Wayne Askew, MSC of the Military Nutrition Department, U.S. Army Research Institute of Environmental Medicine, Natick, Massachusetts, who provided the major project funding, considerations



**Applied Physiology Department (Code 70) cont.**

for practical implementation and interactions with the Food Technology staff; 2) Dr. M. D. McKirnan, Department of Pathology, University of California at San Diego (UCSD) in completion of the swine studies; 3) Dr. L. Mandarino, Department of Medicine UCSD; 4) Dr. John Miles, Department of Endocrinology, Mayo Clinic, Rochester, Minnesota (Oct-Nov 88); 5) Dr. Grace Sun, Department of Comparative Medicine, University of Missouri, who provided technical advice and analyzed blood samples; and 6) Prof. Phillip Gollnick, Veterinary Medicine, Washington State University, Pullman, who provided technical advice, analyzed muscle and liver samples, and who will participate in report preparation.

Dr. Gray collaborated with Dr. Gail Butterfield, Nutrition Department, VA Hospital, Palo Alto, California, on designing a real food low carbohydrate/high fat diet (LCD) for testing in man and appropriate studies to test the metabolic alterations from the diet. Currently he is collaborating with Professor Orville Kolterman, UCSD's School of Medicine Clinical Research Unit who will provide technical expertise and a significant portion of the costs for performing the initial studies of the LCD in man.

April 1988 to present, Christopher Leake is collaborating with Dr. Alan Langer from Syracuse University, Syracuse, New York, on a study "Aerobic Fitness, Endurance and Reactivity to Psychological and Cold Pressor Stress. Also involved in this study is Dr. Marvin Brown of the Autonomic Physiology Laboratory at UCSD Medical Center.

(1988) Research collaborations between LT Deborah Smith, MSC USNR, Naval Hospitals at Camp Pendleton and at San Diego, and Merrell Dow Research Institute are ongoing in connection with the study "The Effects of Terfenadine Alone" and in combination with "Ipratropium Bromide on Pulmonary, Cardiovascular, and Cognitive Function in Military Personnel with Mild or Moderate Asthma."

**ADMINISTRATIVE SERVICES DEPARTMENT (CODE 80)**

(1987) Mrs. Aldous, Librarian, and Mrs. Croft, Library Technician, continue to collaborate with various universities, colleges, and hospitals and attend meetings, workshops, and training sessions throughout the year to keep abreast of the latest development in retrieval of scientific literature, to better serve the needs of NHRC's researchers. The NHRC Wilkins Biomedical Library sponsored a M300 training session conducted by Doria Beachell from FEDLINK, Office of the Library of Congress, on 15 January.

Attendance by Mrs. Aldous and Mrs. Croft at 1987 Meetings, seminars, training sessions, workshops and demonstrations include:

- 18-20 Feb, the Joint Medical Library Group in Newport Beach (Mrs. Aldous)
- 20 Feb, MicroLinx Check-in Serials Control demonstration by Faxon, hosted by Thompson Medical Library, Naval Hospital, San Diego (Mrs. Croft)
- 17 Mar, Minolta demonstration on microform reader/printers (Mrs. Aldous)
- 6-7 Apr, West Coast DTIC User's Meeting (hosted by the Naval Ocean Systems Center) San Diego (Mrs. Aldous & Mrs. Croft)

**Administrative Services Department (cont.)**

- 29 Apr & 30 Jun, meetings of the San Diego Health Librarians hosted by the Veterans Administration Medical Center, and La Jolla Cancer Research Institute, San Diego (Mrs. Aldous)
- 13-22 May, Annual Meeting of the Medical Library Association and Seminar on Epidemiology in Portland, Oregon (Mrs. Aldous)
- 28-30 Jun, Seminar on Library Education at Peabody College, Department of Library and Information Science, Vanderbilt University, Nashville, Tennessee (Mrs. Aldous)
- 23 Oct, PsycInfo Workshop by Psychological Abstracts, hosted by University of California, Irvine Medical Center, Orange, California (Mrs. Croft & Mrs. Aldous)
- 7 Dec, Chemical Abstracts Service Workshop at Kelco Corporation, San Diego (Mrs. Aldous)

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## 1987 and FY-88 Academic Appointments

Several members of our staff teach in the evening at local colleges. Almost all of our senior scientists hold Adjunct Professorships at the local universities. These ties with local universities and colleges serve to keep our researchers up-to-date with the latest academic advances in their fields. These appointments also reflect a high level of acceptance of many of our staff and their work by academic appointment committees.

### University of California at San Diego (UCSD), La Jolla, California

- Frank C. Garland, Ph.D. - Assistant Adjunct Professor, Department of Community and Family Medicine, School of Medicine (1987)
- Charles C. Gray, M.D.  
CDR MC USN - Adjunct Professor Research Faculty, Department of Pathology, School of Medicine (1987, 1988)
- E. K. Eric Gunderson, Ph.D. - Adjunct Clinical Professor of Psychiatry, School of Medicine (1987, 1988)
- Lawrence A. Palinkas, Ph.D. - Assistant Adjunct Professor, Department of Community and Family Medicine (1987, 1988)  
- Affiliated Faculty, Department of Anthropology (1988)

### San Diego State University (SDSU), San Diego, California

- Terry A. Cronan-Hillix, Ph.D. - Lecturer, Department of Psychology (1987)
- Larry M. Dean, Ph.D.  
CDR MSC USN - Adjunct Professor, Department of Psychology (1987, 1988)
- Barbara C. Du Bois, Ph.D. - Clinical Advising Professor, Graduate School of Public Health, Division of Health Promotion (1987, 1988)
- Frank C. Garland, Ph.D. - Consultant Faculty, Graduate School of Public Health, Division of Epidemiology and Biostatistics (1987)
- James C. Helmkamp, Ph.D.  
LCDR MSC USN - Consultant Faculty, College of Human Services Division of Epidemiology and Biostatistics (1987)
- David A. Kobus, Ph.D.  
LT MSC USN - Adjunct Faculty, Lecturer, Department of Psychology (1987)  
- Assistant Professor, Department of Psychology (Cognition) (1988)
- D. Stephen Nice, Ph.D. - Adjunct Faculty Member, Division of Health Services Administration, Graduate School of Public Health (1987, 1988)
- Cheryl L. Spinweber, Ph.D. - Adjunct Associate Professor, Division of Health Promotion, Graduate School of Public Health (1987)
- Anthony Sucec, Ph.D. - Professor of Physical Education, Director of Exercise Physiology Laboratory (1987)

Uniformed Services University of the Health Sciences, Bethesda, Maryland

- Guy L. Banta, Ph.D.                   - F. Edward Hebert School of Medicine, Assistant  
LCDR MSC USN                            Professor of Military Medicine (1988)
- Cheryl L. Spinweber, Ph.D.       - F. Edward Hebert School of Medicine, Research  
  Assistant Professor of Psychiatry, Department  
  of Psychiatry (1987)
- Dennis L. Kelleher, Ph.D.       - Assistant Professor of Physiology and Military  
LCDR MSC USN                            Medicine (1987)

California School of Professional Psychology, San Diego, California

- David Hord, Ph.D.                   - Lecturer, Advanced Physiological Psychology;  
  Doctoral Candidate Supervisor (Dissertations)  
  (1987)

National University, San Diego, California

- Carl E. Englund, Ph.D.           - Professor of Psychology, Graduate School,  
  Division of Arts and Sciences (1987)
- David A. Kobus, Ph.D.           - Adjunct Faculty, Psychology Department (1987)  
LT MSC USN

Park College, Parkville, Missouri

- Larry M. Dean, Ph.D.           - Professor of Psychology, Extension Department  
CDR MSC USN                            (1987)

Pennsylvania State University, University Park, Pennsylvania

- C. Glenn Armstrong, Ph.D.       - Laboratory for Human Performance Research (1988)  
LCDR MSC USN

San Diego City College, San Diego, California

- Ralph Burr, M.A.                   - Psychology Instructor (1987, 1988)

University of North Carolina, Chapel Hill, North Carolina

- D. Stephen Nice, Ph.D.           - Adjunct Faculty, Public Health Department (1988)

Veterans Administration Hospital, San Diego, California

- Tamsin L. Kelly, M.D.           - Department of Medicine, Cardiomyopathy Clinic  
  (Research) (1987, 1988))

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## Work for Scientific Journals/Proposals

Members of our staff are asked, at various times, to serve as editors or reviewers for various scientific/medical journals, and/or for projects relative to their field of expertise. These requests reflect a high level of acceptance of our staff and their work. Editorial input by staff members for 1987 and FY 1988 include:

### JOURNAL REVIEWERS

Anne Hoiberg, M.S.

Associate Editor, Psychological Reports (1987, 1988)

Reviewer, Armed Forces and Society (1987, 1988)

Carl E. Englund, Ph.D.

Associate Editor for SUSOPS, Special Edition, Journal of Work and Stress (1987)

James A. Hodgdon, Ph.D.

Reviewer (Body Composition), Medicine and Science in Sports and Exercise (1987, 1988)

Reviewer, Human Biology (1987)

Brock Kilbourne, Ph.D.

Consulting Reader, Psychological Reports/Perceptual and Motor Skills (1987)

Paul Naitoh, Ph.D.

Cooperative Editor, Educational Test and Measurement (1987)

Associate Editor, Educational Test and Measurement (1988)

Associate Editor, Perceptual and Motor Skills (1987, 1988)

Reviewer, Sleep (1987, 1988)

Reviewer, Electroencephalography and Clinical Neurophysiology (1988)

Lawrence A. Palinkas, Ph.D.

Reviewer, Social Science and Medicine (1987)

Reviewer, Westwood Press (1987)

Cheryl L. Spinweber, Ph.D.

Reviewer, Psychopharmacology (1987)

Reviewer, Aviation, Space, and Environmental Medicine (1987)

REVIEWERS FOR PROPOSALS/CONFERENCE PAPERS/COMMITTEES

Anne Hoiberg, M.S.

- Reviewer, for best book manuscript on "international security studies" to be published by Pergamon-Brassey Defense Publishers, for Inter-University Seminar on Armed Forces and Society Award. (1987)
- Reviewed presentation for an annual award of the American Association for the Advancement of Science, Pacific Division meetings, 15 June. (1987)

Lawrence A. Palinkas, Ph.D.

- National Science Foundation

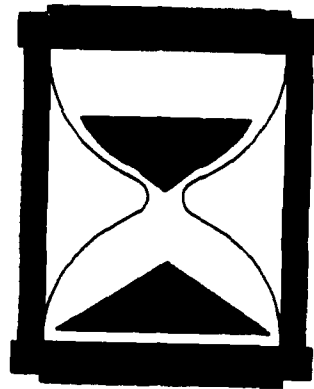
William Pugh

- Reviewer, Papers for Symposium on Computer Applications in Medical Care (SCAMC)

Cheryl L. Spinweber, Ph.D.

- Invited Reviewer, Air Force Office of Research (1987)
- Invited Reviewer for Research proposals, NIMH Psychopathology and Clinical Biology Research Review Committee - Panel 2. (1987)

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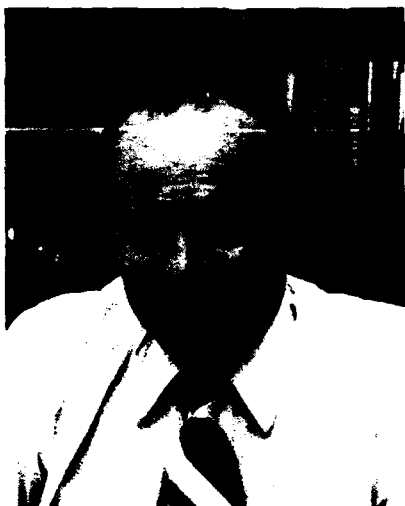


# Other Activities





## In Memoriam



WILLIAM "BILL" K. WRIGHT

9 October 1920

24 July 1987

After serving 24 years, Bill retired from the U.S. Navy in 1963. He returned to U. S. Navy Medical Neuropsychiatric Research Unit (NPRU) and served as the Administrative Officer until his retirement on 1 February 1979. All of his 16 years of Civilian Federal Service were served at NPRU/NHRC (Naval Health Research Center).

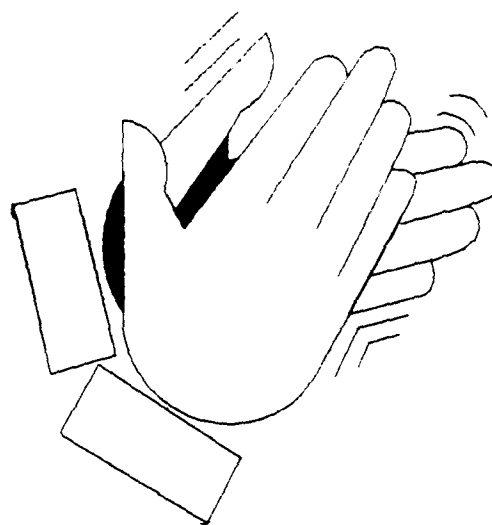
MARY V. PAUL

30 October 1921

18 June 1988

Mary Paul began her career at the U.S. Navy Medical Neuropsychiatric Research Unit (NPRU) in June 1967 as a San Diego State Student. In December 1968, she came onboard as a Computer Clerk in the Data Processing Division. After serving two years in the U. S. Navy during WWII and all of her 16 years of Civilian Federal Service at NPRU/NHRC, she retired on 1 October 1984 as a Computer specialist with the Research Support Department.

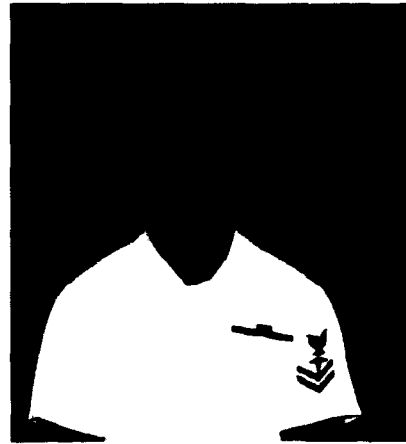




MILITARY SALUTES

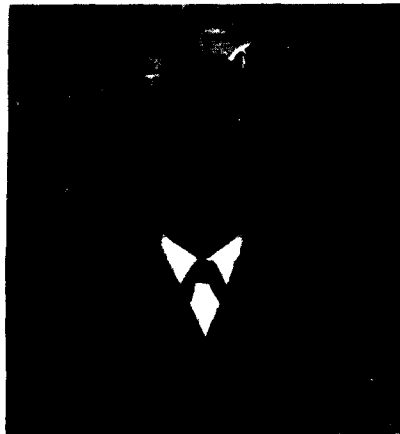


HM3 Greenwood



HM2 Buker

### Sailor of the Quarter



HM3 Stover



HM2 Sampson

### Frocking



HMCS Jackson

CAPT Fornes



HM2 Sinnott

HM2 Harris

CDR Dean

## MILITARY HONORS AND AWARDS

### NHRC'S 1987 SAILOR OF THE YEAR



**HM3 TINA M. JENKINS, USN**

Sailor of the Quarter, July-September  
Good Conduct Medal, presented in June  
Navy and Marine Corps Oversea Service Ribbon

**HM3 Tina M. Jenkins, USN**, was selected NHRC's SAILOR OF THE YEAR, based on her superb performance in various aspects consistently demonstrating unfailing diligence, job-aggressiveness, flexibility, and total dedication to excellence. Assigned to the Applied Physiology Department, and in addition to her direct involvement in research and assisting newer department members in learning laboratory testing techniques, she functions as the Departmental Supply Petty Officer and is the command's Training Petty Officer responsible for organizing and conducting CPR training sessions in addition to her in-service classes. Of her numerous flexibilities, noteworthy to mention is her willingness to voluntarily supervise, before beginning of normal working hours and from beginning to its completion, subjects of the Connective Tissue Response to Training Intensity Study.

**PO Jenkins** is in her second year seeking an Associate of Arts degree from National University. She is active in the local community performing volunteer work with underprivileged children at Luther Burbank Elementary School, San Diego, and represents the command and the Navy in several marathons.

### SAILOR OF THE QUARTER

#### 1987:

Jan-Feb-Mar 87: **HM3 Mark Greenwood**, Ergonomics Department  
Apr-May-Jun 87: **HM2 Kirk Buker**, Work Physiology Department  
Jul-Aug-Sep 87: **HM3 Tina M. Jenkins**, Work Physiology Department

#### FY-88:

Oct-Nov-Dec 87: **HM3 Princess Stover**, Work Physiology Department  
Jan-Feb-Mar 88: **HM1 Kenneth McCoy**, Administrative Services Department  
Apr-May-Jun 88: **HM2 Nancy Sampson**, Administrative Services Department  
Jul-Aug-Sep 88: -0-

### FROCKING

On 20 Jun 87, **HMCS Larry G. Jackson, USN**, Chief Petty Officer of the Command

On 29 Jun 87, **HM2 Suzanne C. Sinnott, USN**, Ergonomic Department  
**HM2 Frederick L. Harris, USN**, Applied Physiology Department

On 26 Jul 88, **HM2 Princess Stover**, Applied Physiology Department

On 2 Aug 88, **HM2 Tina M. Jenkins**, Applied Physiology Department

## NOMINEES

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### FOR NAVAL MEDICAL COMMAND'S SHORE SAILOR OF THE YEAR PROGRAM

NHRC's nominations for Naval Medical Command's Shore Sailor of the Year Program were both from the Applied Physiology Department, for 1987 **HM1 Jennifer D. Hiett** and for 1988, **HM2 Tina M. Jenkins**.

### NAVAL SERVICE ENLISTED WOMAN OF THE YEAR PROGRAM

**HM2 Tina M. Jenkins** was NHRC's nominee for both the "Naval Service Enlisted Woman of the Year" sponsored by South Bay Cities Council Navy League of the United States, and for the "Military Woman of Achievement Award" sponsored by the Navy League of the United States of San Diego.

### FOR LEVERING SMITH AWARD OR FREDERICK B. WARDER AWARD

**LT David A. Kobus, MSC, USN**, was nominated in 1987 by the Director, Health Care Operations Division, Office of the Chief of Naval Operations, for either the Levering Smith Award or the Frederick B. Warder Award by the Naval Submarine League, "for an important contribution to the Submarine Force, the development of low level white lighting as an improvement over red lighting for night-time illumination."

## DEGREES

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**HM1 Jennifer D. Hiett, USN**, graduating in May 1987, received her Bachelor of Science Degree from the University of New York at Albany. This degree was earned through the New York Regents Program made possible by the assistance of Navy Campus for Achievement and by command support.

14 June 87, **HM2 Kirk L. Buker, USN**, received an AA Degree at National University. While working toward completing his Bachelor's program, he continues to be on the Dean's List.

## APPOINTMENTS TO OFFICES - NATIONAL, STATE, LOCAL SOCIETIES

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**LCDR Guy R. Banta, MSC, USN**, appointments include:

- \* Chairman, Associate Fellow, Aerospace Medical Association, 1986-1987
- \* Elected Fellow, Aerospace Medical Association, 1987
- Aerospace Medical Association:
  - \* Program Committee, 1985-88
  - \* Awards Committee, 1988-89
  - \* Science and Technology Committee, 1982-1989

## RESERVISTS

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**ENS Deienzso Damian, USNR** served his ACDUTRA from 3-24 August 87 with the Applied Physiology Department.

**LCDR Jerry M. Linenger, MC(FS), USN**, of the Naval Reserve Officers Training Corps Unit, Chapel Hill, North Carolina, continued his post-graduate job experience with the Health Psychology Department from 9 May to 31 August 88.

COMMISSIONING

HM2 Lamont Louis, USN, was selected for a Commission as an Ensign, Medical Service Corps. An official commissioning ceremony was held on 3 December 87.



HM2 Louis

CAPT Chaney

COMMAND CHIEF PETTY OFFICER CEREMONY

At a special ceremony on 25 April 88, HMC Catharina C. Scott, UNS was officially appointed Chief Petty Officer of the Command.



CAPT Chaney

Chief Scott

INCENTIVE AWARDS PROGRAM, MILITARY, CASH AWARD

To: LT David A. Kobus, MSC, USN

Presented: 21 January 1988

"An Incentive Cash Award in the amount of \$2500.00 for LT Kobus' outstanding scientific achievements in the area of Low Level White Light (LLWL) illumination have materially improved the visual display recognition capability of sonar operators and has reduced operator fatigue, thereby significantly impacting operational readiness. LT Kobus' research has led directly to implementation of LLWL illumination in selected areas aboard submarines. His findings critically impact the future design of color enhanced sonar visual displays for all classes of submarines.



LT Kobus

CAPT Chaney

**DEFENSE MERITORIOUS SERVICE MEDAL**

To: LCDR Dennis R. Kelleher, MSC, USN

Pres. Presented: 9 March 1988

"For exceptionally meritorious service as Assistant Professor, Department of Physiology and Department of Military Medicine, Uniformed Services University of the Health Sciences, from 6 August 1984 to 31 July 1987. LCDR Kelleher completely restructured the course in Military Applied Physiology, making it much more relevant to the military and more motivating to students. He designed and developed the course objectives, academic and leadership content, and executed the outstanding first year field training exercise at Quantico. His efforts as the field exercise course director have resulted in a superior exercise which the Navy plans to incorporate into its reserve medical officer training.

Jay P. Sanford  
Secretary of Defense, for the President  
Uniformed Services University of the  
Health Sciences

**MERITORIOUS SERVICE MEDAL**

To: Captain Michael F. Fornes, MC, USN

Forwarded: June 1987

"For outstanding meritorious service as Commanding Officer, Naval Health Research Center, San Diego from May 1984 through June 1987. CAPT Fornes' exemplary leadership during his tenure as Commanding Officer was instrumental in expanding the research and development capabilities of the Naval Health Research Center to provide timely, more effective, and efficient operational medical support for Navy and Marine Corps forces. ...numerous research programs were instituted and completed which directly impacted the quality, quantity, and timeliness of medical support and care of the operational forces of the Department of the Navy. The superb and sensitive judgment, resourceful management, and strong leadership which CAPT Fornes displayed as Commanding Officer were widely recognized throughout the line, medical, and research communities...."

For the President,  
C. A. H. TROST, Admiral, U.S. Navy  
Chief of Naval Operations

To: LCDR Guy R. Banta, MSC, USN

Presented: 12 September 1988

"For outstanding meritorious service while assigned as Research Area Manager for Aviation Medicine/Human Performance, Naval Medical Research and Development Command, Bethesda, Maryland from June 1985 to June 1988. ...He was singularly responsible for creating and initiating new medical research programs in sustained operations and in enhanced performance in the cold, studies which are vital for improving the Navy's capabilities in today's likely combat environments.

Through his unselfish dedication and leadership, he heightened the Navy's role in Human Performance research throughout the Department of Defense. The many programs that he initiated will continue to benefit Navy and Marine Corps personnel for years to come...."

For the President,  
C. A. H. TROST, Admiral, U.S. Navy  
Chief of Naval Operations



**NAVY COMMENDATION MEDAL**

To: **LCDR James C. Helmkamp, MSC, USN**

June 1987

upon his transfer from the Occupational Medicine Department to Naval Environmental Health Center, Norfolk, Virginia, was awarded in June, the Navy Commendation Medal.

To: **HMI Jennifer D. Hiatt, USN**

awarded 22 March 88 at  
Naval School of Health Sciences, San Diego

"For meritorious service in the superior performance of duty while serving as Leading Petty Officer in the Department of Work Physiology, Naval Health Research Center, from Dec 84 to Sep 87. Through her personal commitment, outstanding leadership and innovative management of limited personnel, HMI Hiatt significantly contributed to the successful completion of several research projects, including the establishment of a new table of physical readiness testing standards for the Navy, and fitness profiles for the Performance Enhancement of Special Warfare Personnel. HMI Hiatt's demonstrated initiative in serving as an instructor in Naval Hospital, San Diego's Advanced Cardiac Life Support course and as coordinator for NHRC's Emergency Medical Training Program, and Physical Fitness Program, was directly responsible for the overwhelming success of these three programs."

To: **HMC Catharina Scott, USN**

Presented: 25 August 88

"For meritorious service as Medical Officer Programs Recruiter and Medical Support Petty Officer, Navy Recruiting District, San Diego, California from October 1986 to March 1988. Chief Scott performed her duties in a superior manner and was named 1987 Minority Officer Programs Recruiter of the Year. Her contributions promoted Navy recruiting District, San Diego as a front runner in Officer recruiting and leader on the West Coast for Hispanic Officer recruiting. She routinely found qualified applicants for positions historically hard to fill. Her innovation, tenacity, and long working hours guaranteed her making and exceeding assigned goals.

For the Secretary,  
C. A. H. TROST, Admiral, U.S. Navy  
Chief of Naval Operations



Aug 88: Chief Scott

CAPT Chaney



Jun 87: LCDR Helmkamp

CDR Dean



NAVY ACHIEVEMENT MEDAL

The following military staff were presented the Navy Achievement Medal:

- To: **HMCS Larry G. Jackson, USN** Presented: December 1987  
Senior Petty Officer of the Command and Head of Administrative Services
- To: **LCDR James C. Helmkamp, MSC, USN** forwarded: December 1987  
formerly of the Occupational Medicine Department (Gold Star in lieu of the  
Second Award)

Citation for both: "For professional achievement in the superior performance of their duties while serving as an Advisor to the Defense Medical Systems Support Center, Office of the Assistant Secretary of Defense (Health Affairs) for the development and testing of the prototype Shipboard Non-Tactical ADP Program Automated Medical System (SAMS) from February 1986 to November 1986."

JAMES H. WEBB, JR.  
Secretary of the Navy

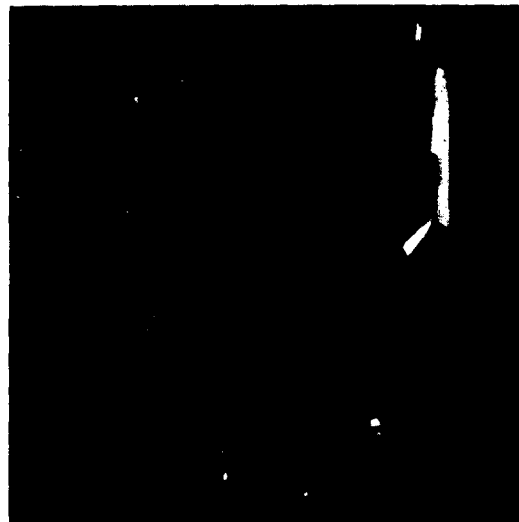
- To: **LCDR John T. Coyne, MSC, USN** Presented: 21 January 1988

"For meritorious service while serving as the Medical Administrative Officer, 3d Marine Aircraft Wing, Fleet Marine Force, Pacific from 22 June 1984 to 25 August 1987. "...His development, organization and implementation of a flawless physician credentialing system resulted in the precise documentation of all credentialing data and clinical privileges for each assigned Flight Surgeon, ...ensured that maximum medical support was provided to all deployed wing units..."

For the Secretary of the Navy  
E. J. GODFREY  
Lieutenant General, U.S. Marine Corps  
Commanding General  
Fleet Marine Force, Pacific



Dec 87: HMCS Jackson



Jan 88: LCDR Coyne

**NAVY ACHIEVEMENT MEDAL cont.**

To: **CDR John G. Aronen, MC, USN**

Presented: 8 March 1988

"For meritorious service as Head, Sports Medicine Branch, Bancroft Hall Branch Clinic, U.S. Naval Academy, Annapolis, Maryland from July 1979 through October 1986. Commander Aronen established an unparalleled record of accomplishment. He minimized the impact of athletic injuries on midshipmen by such innovations as meticulous protocols for stress fractures, shin splints, blisters, and heat stress; comprehensive training and supervision of other providers; research leading to dismantling of an archaic obstacle course and authorization for use of quality running shoes, ...walk-in clinics before and after the academic day, ...developed the Commandant's Physical Education Review Board to ensure rational deliberation of midshipmen whose injuries led to Physical Education failures. His clinical acumen, research productivity, and many presentations and publications established him as the Sports Medicine expert in the Navy. Respect in the civilian community was attested by numerous prestigious appointments and selection to represent the United State on the International Council of Sports Medicine...."

For the President,  
C. A. H. TROST, Admiral, U.S. Navy  
Chief of Naval Operations

To: **HM3 Mark C. Greenwood, USN**

Presented: 20 May 1988

"For professional achievement in the superior performance of duties while assigned to Naval Health Research Center from Jun 85 to May 88. He contributed to the successful evaluation of Low Level White (LLW) Lighting on surface ships and the implementation and evaluation of the Combat Casualty Care System. His professional interaction with line communities always reflected great pride in himself and NHRC, his skill as a Hospital Corpsman and ability to take command of a medical emergency was instrumental in minimizing a potentially fatal accident."

For the Secretary of the Navy  
ROBERT D. CHANEY, Captain, MC, USN  
Commanding Officer



To: **LCDR Curtis G. Armstrong, MSC, USN**

Presented: 12 September 1988

"For meritorious service in the superior performance of duty as an Aerospace Physiologist, assigned to Naval Health Research Center, from 1 Oct 87 to 30 Sep 88, ...while assigned additional duties in response to a Navy Science Assistance Program mission tasking from Commander, Middle East Force led directly to a highly successful and timely research advisory report. LCDR Armstrong's technical expertise and professionalism assured development of an outstanding research program including the marshalling of the diverse research assets required to conduct the protocol. He was personally responsible for the successful execution



**NAVY ACHIEVEMENT MEDAL cont.**

of the research protocol, at-sea, under hostile conditions, and the co-authorship of the principal technical report documenting the results of the study. LCDR Armstrong's superior achievements on this vital and time critical research reflect the finest qualities of personal commitment and professionalism."

For the Secretary of the Navy  
ROBERT D. CHANEY, Captain, MC, USN  
Commanding Officer

**GOOD CONDUCT MEDAL**

on 9 March 1988, **HMI Gary Anderson**, Operating Services, was awarded his 5th Good Conduct Medal

**ARMED FORCES EXPEDITIONARY MEDAL**



(l-r) : **LCDR Guy R. Banta, MSC, USN** (Sleep Research Department)  
**LT David A. Kobus, MSC, USN** (Ergonomics Department)  
**CAPT Robert D. Chaney, MC, USN** (Commanding Officer)  
**LT Timothy P. Steele, MSC, USN** (Health Psychology Department)  
**LCDR C. Glenn Armstrong, MSC, USN** (Applied Physiology Department)  
(Kneeling: **HMI Alvin Almada, USN** (Medical Information Systems Department))

On 28 September 1988 the above were authorized to wear the Armed Forces Expeditionary Medal/Ribbon for service onboard Administrative Support Unit, Bahrain, during the period 14 Sep-2 Nov 88.

**NAVY AND MARINE CORPS OVERSEAS SERVICE RIBBON**

Presented in August 87 to **HM3 Tina M. Jenkins, USN**, "for overseas service from March 1985 to November 1986 at U.S. Naval Hospital, Okinawa, Japan."

Two awards were presented in November 87, to **HM2 Nancy A. Sampson, USN**, first, "for overseas service from October 1981 to May 1984 at U.S. Naval Hospital, Naples, Italy, and the second award "from June 1984 to June 1986 at U.S. Naval Hospital, Guantanamo Bay, Cuba."

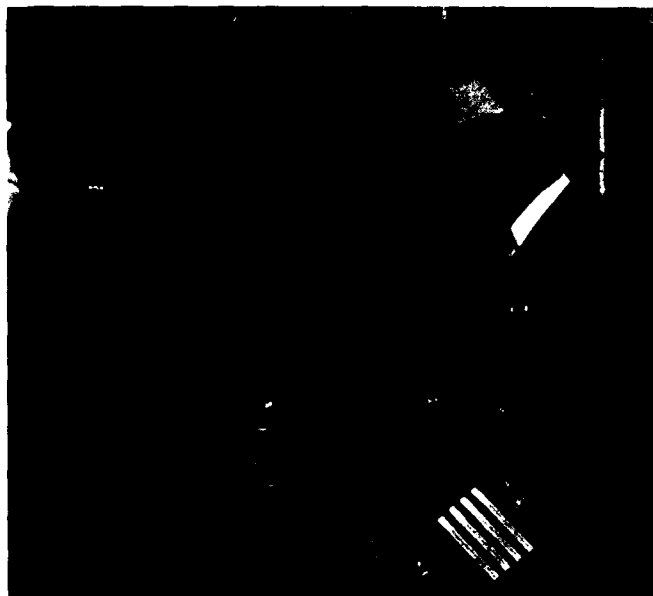
**CERTIFICATE OF COMMENDATION**

To: **HM3 Willie J. Bethea, USN**

Presented: December 1987

"For exceptional performance while serving as a Hospital Corpsman in the Headquarters Battalion Aid Station, 3d Marine Division, Fleet Marine Force, Pacific from January 1986 to December 1986. During this period HM3 Bethea contributed to the successful mission accomplishment of the Battalion Aid Station. He demonstrated extraordinary initiative and resourcefulness by developing and implementing an automated data processing system to monitor preventive medicine special programs. His recommendations were readily accepted and contributed significantly in insuring that all personnel affected by subject programs received follow-up treatment in a timely manner."

R. B. Johnston  
Brigadier General, U.S. Marine Corps  
Acting Commanding General  
3d Marine Division, Fleet Marine Force

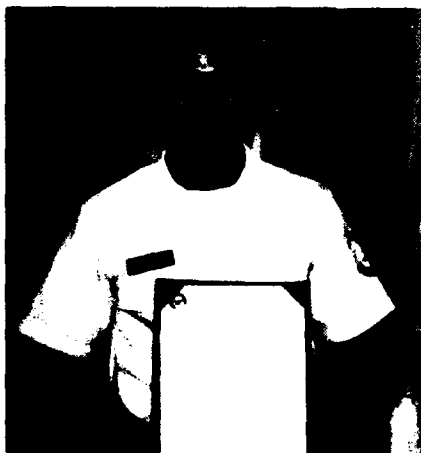


**LETTERS OF COMMENDATION**

To: **HM3 Mark Greenwood, USN**

27 Apr 87

From: Commanding Officer, Naval Health Research Center  
Subj: LETTER OF COMMENDATION



For his immediate action response and emergency assistance to reduce the injury and lessen the trauma to Mr. M. Murset, of Navy Personnel Research and Development Center, by physical effort to remove the weight of Mr. Murset's car from his chest caused by the collapse of his car jack, and for care rendered while awaiting emergency fire and medical teams. His actions reflect a highly trained and responsive Hospital Corpsman.

**LETTERS OF COMMENDATION cont.**

To: **CDR Charles G. Gray, MC, USN**  
From: Commanding Officer, U.S. Army Research Institute of Environmental Medicine, Natick Massachusetts 25 Feb 88  
Subj: COMMENDATION for CDR Gray, Re: Research Conducted for the U.S. Army Medical Research and Development Command

"To express satisfaction with the excellent research on metabolic aspects of a low carbohydrate diet conducted by CDR Gray, ...research funded in part by the U.S. Army Medical Research and Development Command as part of their Military Nutrition Research program. ...to develop an exercising swine model for testing metabolic aspects of a low carbohydrate diets, which information was needed as an adjunct to our human studies on high fat diets and their influence on soldier health and performance. CDR Gray made some significant observations with his model. Apparently the absolute amount of carbohydrate in the diet is key in determining metabolic, performance and health ramifications of high fat diets. This program, termed "nutrition sustainment model" would benefit if CDR Gray could continue his research toward the goal of developing a similar low carbohydrate diet that would be palatable to humans yet elicit the same metabolic effect noted in his research with the pig model. These studies need to be transitioned to human work as soon as possible."



To: **HMI Gary L. Anderson, USN**  
From: Commanding Officer, Naval Health Research Center 29 Apr 88  
Subj: LETTER OF COMMENDATION

"Upon the occasion of your transfer to the U.S. Navy Fleet Reserve I commend you for your outstanding performance of all duties while assigned to NHRC from Jul 84 to Apr 88. ...During the span of 20 years of devotion to duty, at six major commands, your professionalism was recognized by the following decorations: National Defense Medal, Navy Good Conduct Medal (5 awards), Humanitarian Service Medal, Navy and Marine Corps Overseas Service Ribbon (2 awards). ...While stationed at NHRC in the Ergonomics Department, from Aug 84 through Feb 85 you served as Leading Petty Officer (LPO) of the Sustained Operations Project to its completion supervising 6 personnel; as LPO in the Chemical Defense Project supervising 5 personnel from Feb 85 through Jun 87. ...In Jun 87 you became the Quality Assurance Manager for the Operating Services Department and were instrumental in upgrading the tracking procedures for accountability of plant and minor property. ...In addition to support roles in numerous research projects you assumed and superbly performed the following collateral duties: Command LPO, Energy Officer, Command Career Counselor, Education and Training Officer, Welfare and Recreation Petty Officer, Assistant Safety Officer, and PASS Liaison Representative."



**LETTERS OF APPRECIATION**  
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To: **HM1 Jennifer Hielt, HM3 Lee Barr, & LT James Norton, MSC USNR** 12 Mar 87  
From: Commandant, Uniformed Services University of the Health Sciences, School of  
Medicine, Bethesda  
Subj: LETTERS OF APPRECIATION

1. For their assistance of data collection at BUD/S 12-17 January, 18-28 February and for the study recovery phase of 6 March since it was not feasible for personnel from USUHS to collect the recovery data.

To: **LCDR James C. Helmkamp, MSC USN** 20 Apr 87  
From: Commanding Officer, Navy Environmental Health Center, Norfolk  
Subj: LETTER OF APPRECIATION

1. For his presentation given at the 29th Navy Occupational Health and Preventive Medicine Workshop, 28 February - 5 March.

TO: **LT James Norton, MSC USNR** May 87  
From: Chief Inspector, Naval Training Center, San Diego  
Sibj: LETTER OF APPRECIATION

1. For his support during the recent command inspection of RTC conducted from 27 Apr-1 May. His time spent and attention to detail resulted in a comprehensive and detailed inspection of the physical training (PT) for Recruits Program.

To: **HMCS Larry G. Jackson, HM1 Kenneth W McCoy,** 17 Jun 87  
**HM1 Alvin Almada, and HM2 Jordon M. Malbrough**  
From: Commanding Officer, Naval Health Research Center, San Diego  
Subj: LETTERS OF APPRECIATION

1. For their performance of dual roles at the Change of Command on 16 July 87.

To: **HM1 Alvin Almada, HM2 Lamont Louis, HM3 Mark Greenwood,** 18 Sep 87  
**and HM3 Stephen Barlow**  
From: Walter Wilcox, Medical Information Systems Department, Naval Health Research  
Center, San Diego  
Subj: LETTERS OF APPRECIATION

1. For their assistance, training, and equipment testing, during the Combat Casualty Care Medical Information System (CCC/MIS) demonstration at Camp Pendleton the week of 24 August 87.

To: **LT Charles V. Chesson II, MSC USNR, HMCS Larry G. Jackson,** 24 Sep 87  
**HM1 Kenneth W. McCoy, HM2 Lamont Louis**  
**HM3 Mark Greenwood** 19 Oct 87  
From: LT David Kobus, MSC, USN, Ergonomics Department, Naval Health Research Center  
Subj: LETTERS OF APPRECIATION

1. For their voluntarily participation of collecting on-site experimental data during extended periods at sea in the evaluation of Low Level White Lighting project for surface ships.

**LETTERS OF APPRECIATION cont.**

To: **HM2 Kirk L. Buker, HM3 Tina M. Jenkins, and HM3 Princess Stover** 12 Oct 87  
From: LT Mark Riedy, MSC, USNR, Applied Physiology Department, Naval Health Research Center, San Diego  
Subj: LETTERS OF APPRECIATION

1. For their voluntarily contribution to work extended hours to assist in the successful completion of Phase I of the Physical Training and Connective Tissue research study.

To: **LT Mark Riedy, MSC USNR** 20 Oct 87  
From: Commanding Officer, Naval Communications Station San Diego  
Subj: LETTER OF APPRECIATION

1. For the informative physical readiness training presented on 1 October. It is paramount that the leadership (officers and CPO's) understand the significance of the physical readiness program. Presentations by knowledgeable experts, particularly those who will address audience questions with candid honesty, is essential to the success of the program. Your confidence, wit, and dedication ensured the effectiveness of your presentation and were enjoyed by all in attendance.

To: **CDR Charles G. Gray, MC, USN** 18 Feb 88  
From: Commanding Officer, U. S. Army Research Institute of Environmental Medicine Natick, Massachusetts  
Subj: LETTER OF APPRECIATION

1. Appreciation for two seminars on metabolic and cardiovascular studies in the exercising swine model presented to ARIEM staff on 16-17 February, providing useful information for the Nutrition Sustainment Module developing program.

To: **HM1 Kenneth W. McCoy, HM1 Gary L. Anderson, HM2 Nancy A. Sampson, HM3 Stephen R. Barlow, HM3 Willie J. Bethea, and HM3 Mark Greenwood** 18 Apr 88  
From: Senior Civilian Medical Officer, Naval Health Research Center  
Subj: LETTER OF APPRECIATION

"For the support given to the Navy Science Assistant Program (NSAP) project "Performance Enhancement during Sustained Operations" by obtaining needed equipment from the Naval Aerospace Medical Research Laboratory and Vitalog, Inc., which included receiving and delivering packed equipment to air freight services during your regular off hours which enabled investigators to proceed with the project and meet planned NSAP objectives. After data collection was completed your help to insure the safe return of the equipment to Naval Aerospace Medical Research Laboratory."



HM3s: Greenwood Barlow Sampson

To: **LCDR Curtis G. Armstrong, Jr., MSC, USN** 31 Aug 88  
From: Director, Plans & Policy, U.S. Central Command, MacDill AFB, Florida  
Subj: LETTER OF APPRECIATION

1. "Appreciation for the professional support and medical expertise provided during the USS Vicennes investigation. On very short notice you displayed from your normal duties to Bahrain to assist in examining some medical aspects of the incident that were beyond the expertise of the investigating team. ...Your long hours of hard work and sound professional evaluation of a very complex set of circumstances were invaluable to me in successfully completing a difficult and demanding assignment.

To: LCDR J. T. Coyne, MSC, USN and M. Joyce Johnson  
From: Commanding Officer, Naval Health Research Center  
Subj: CERTIFICATES OF APPRECIATION

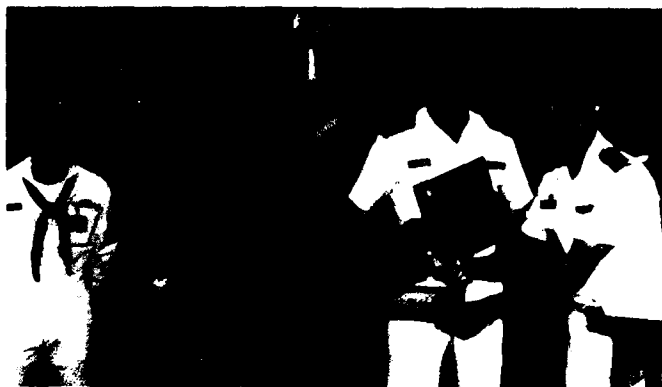
13 May 88

1. Appreciation for conducting the command's Fall 1987 San Diego County Combined Federal Campaign drive.

To: HM2 Gener B. Canimo, USN  
From: Commanding Officer, Naval Health Research Center  
Subj: CERTIFICATE AND LETTER OF APPRECIATION

30 Sep 88

1. Appreciation for conducting and making the FY-88 Navy Relief drive a success by tripling the 1986 donations, with a Certification of Appreciation from the San Diego Auxiliary Navy Relief Society.



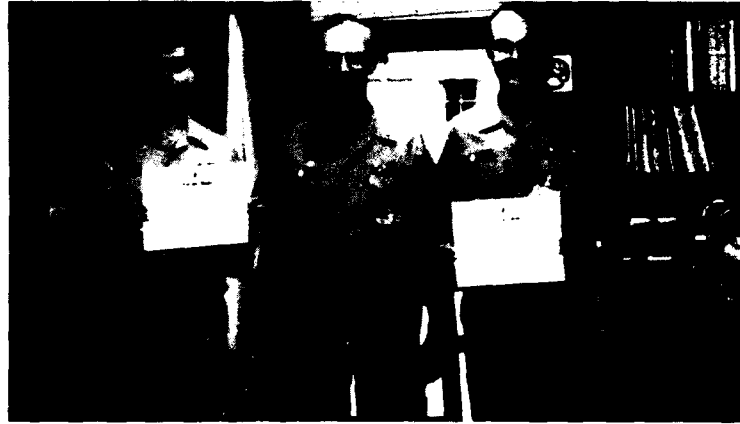
CFC: Joyce Johnson LCDR Coyne CAPT Chaney



SPORTS AWARDS (PHYSICAL FITNESS), ETC.

PRT: "I beat the Skipper Award"

At NHRC the requested Physical Readiness Tests are conducted differently. To entice the participants, Captain Chaney initiated the "I beat the Skipper Award." How does this work? After the CO takes his PRT, the Physical Fitness Officer calculates the CO's percentage attained in each category then applies that percentage to all categories. One must meet or exceed the adjusted score to receive 72 hours of liberty and certificate.



LT Steele "The Skipper" LCDR Armstrong



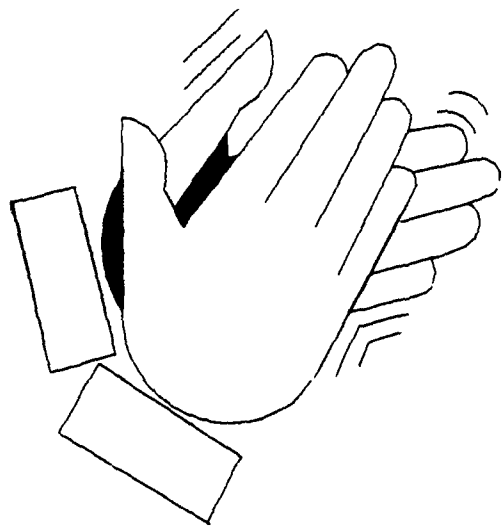
LT Chesson "The Skipper"



Hml McCoy LT Riedy LT Steele HM2 Buker, PFPO "The Skipper"

"I beat the Skipper" (in addition to the above) include LCDRs Coyne and Linenger, LTs Kobus and Smith, Hml Almada, HM2s Malbrough, Buker, Bethea, Sinnott, and Jenkins, & HM3 Morosi.

LCDR Jerry Linenger, representing NHRC (Code 40), placed 1st overall in the week-long (6-11 Jun 88) "Fit for Life" competition. He received 1st Place medals in the 10K run and ping-pong tournament; 2nd place awards in the swimming and 1500 meter rowing competition, and added points in the bench press weight lifting and basketball events. After defeating the submariners and SEALs during the week, over the weekend in the Torrence 10K, he "beat up" on 800 civilians and won the 1st place plaque for his division.



CIVILIAN AWARDS

1987 AND FY-88 CIVILIAN HONORS AND AWARDS

**CERTIFICATE OF COMMENDATION**

Presented 20 Jan 88

To **Christopher Blood**  
From: Medical Readiness Theater Systems,  
Department of Defense

"For the outstanding support you have provided to the Defense Medical Systems Support Center (DMSSC) Medical Readiness and Theater Systems (MR&TS) Program office while serving as a member of the Shipboard Non-Tactical ADP Program (SNAP) Automated Medical System (SAMS) Level 1 functional Description Working Group and Test Site Evaluation Team. As a result of the contributions of dedicated professionals like yourself, SAMS has proven to reduce the administrative burden of Shipboard Independent Duty Corpsmen by 25-45%. The superb success of the SAMS Program depends upon the conscientious involvement and sound judgment of individuals at all levels. The critical role you played in establishing, evaluating, and maintaining SAMS at the sites under your cognizance resulted in the formal acceptance of SAMS for the Navy by the Fleet Surgeon, United States Atlantic Fleet on 7 December 1987. Your accomplishments reflect great credit upon yourself, the United State Navy, and the Department of Defense.



Christopher Blood

CAPT Chaney

**BIBLIOGRAPHY**

(1987) Dr. Cheryl Spinweber, Head of the Behavioral Psychopharmacology Department, bibliography was selected for inclusion in Who's Who in the West, 21th Edition (page 695), and Who's Who in California, 16th and 17th editions.

**1987 TOASTMASTER OF THE YEAR**

Ms. Brenda Crooks CTM, Secretary to the Commanding Officer, was selected as the "1987 Toastmaster of the Year" for Undersea's Club #888, (District 5) and presented the Club's rotating plaque. Ms. Crooks served as Educational Vice-President and President during 1987. Her efforts in both offices pushed the club to attain 11,692 points which resulted in Undersea's placing number 10 among 74 Toastmaster Clubs in District 5, receiving Toastmasters International's "President's List" banner.

**APPOINTMENTS TO OFFICES AND OTHER DUTIES PERFORMED - NATIONAL, STATE, LOCAL SOCIETIES**

(1987) Dr. Cheryl L. Spinweber, Head, Behavioral Psychopharmacology Department, continues to serve as:

- \* Secretary-Treasurer for the Western Psychological Association (1986 to 1989)
- \* Executive Committee Member of the Sleep Research Society (1986-1989).

(1987, 1988) Ms. Anne Hoiberg, of the Health Psychology Department, serves: for Division 19, American Psychological Association (APA)

- \* as Representative, Committee on Women in Psychology (1987)
- \* as a Member, Ad Hoc Committee on Women and Minorities in the Military (1988)
- \* has declined invite to be nominated for President, Div 19, APA (1988)

for the Inter-University Seminar on Armed Forces and Society (IUSAFS), she:

- \* was nominated to serve as Director for North America, Board of Directors, 1 Jul (1987)
- \* was elected to serve a 6-year term on the Council, 8 October (1987)
- \* was invited to serve on the Awards Committee, 8 October (1987)
- \* Chairperson, Ad Hoc Committee, IUSAFS, Div 19 APA (1988)

and has the following Inter-University Seminar on Armed Forces and Society affiliations: Member, Advisory Council; Associate Chairperson

(1988) Ms. Hoiberg serves as a resource person for the Office of Minority Health Resource Center, U.S. Department of Health and Human Services.

(1988) Ms. Hoiberg served as course manager and conducted "Prevention of Sexual Harassment" class for enlisted Navy personnel at Naval Hospital, San Diego on 21 July.

(1987-1988) Dr. Barbara Du Bois, NRC Postdoctoral Associate of the Health Psychology Department, was promoted to Program Advisor, State of California Hypertension Control Program, Council of Community Clinics, San Diego, from Chairman, Community Advisory Board of the State Hypertension Control Program.

(1987) Dr. William Dressler, Associate Professor, Department of Community Medicine, University of Alabama is reporting results from Dr. Du Bois' dissertation research of hypertension and social support into a book written on the anthropological contribution to studies of social support.

(1988) Dr. DuBois received a National Institute on Aging Grant, Department of Family and Community Medicine, School of Medicine, UCSD, to study aging in ethnic minority elderly as it relates to chronic disease prevalence.

(1988) Dr. Brock Kilbourne, NRC Associate of the Health Psychology Department, was for the Pacific Division of the American Association for the Advancement of Science, Program Coordinator for Social, Economic and Political Sciences.

(1988) Dr. D. Stephen Nice, Head of the Health Psychology Department, served 29 February - 5 March, on the Surgeon General's Task Force on "Policy Recommendations for Shipboard Independent Duty Hospital Corpsmen," Washington, DC.

**1987 Incentive Awards**  
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On Tuesday, 22 October 87, the following civilian awards were presented.

Office of the Commanding Officer

**Sustained Superior Performance:** Brenda M. Crooks

Administrative Services Department

**Sustained Superior Performance:** James E. Bennett (Finance)  
Betty E. Croft (Library)  
Ralph D. Garcia (Transportation)  
D. Joyce Stokes (Admin Office)

**Quality Step Increase:** Mary E. Aldous (Library)  
Beverly E. Donnell (Finance)

Occupational Medicine Department

**Sustained Superior Performance:** Ralph G. Burr  
Edward D. Gorham  
Michael S. McNally  
Milan R. Miller  
Lawrence A. Palinkas, Ph.D.  
David H. Ryman  
Frank A. Thompson  
Martin R. White

Health Psychology Department

**Sustained Superior Performance:** Terry L. Conway  
Linda J. Dutton

Medical Information Systems Department

**Sustained Superior Performance:** Anthony J. Feaster  
Lawrence A. Hermansen  
Dianna M. Pearsall

Applied Physiology Department

**Sustained Superior Performance:** Linda K. Hervig  
Ross R. Vickers, Jr., Ph.D.

Ergonomics Department

**Sustained Superior Performance:** Tamsin L. Kelly, M.D.  
Matthew Sinclair

**Quality Step Increase:** Viola C. Castelli

Research Support Department

**Quality Step Increase:** Richard F. Booth  
Donald A. Irwin

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**1988 Awards**

For the period 1 July 87 through 31 May 88, the following civilian performance awards were presented on Thursday, 25 August 88 to:

Office of the Commanding Officer and Central Staff

**Performance:** Aldous, Mary E. Central Staff (Library)  
Banks, Jane R. Central Staff (Personnel)  
Correia, Joleen Office of the Commanding Officer  
Croft, Betty E. Central Staff (Library)  
Crooks, Brenda M. Office of the Commanding Officer  
Donnell, Beverly E. Central Staff (Finance)  
Fontanares, Prima S. Central Staff (Research Information Systems)  
Garcia, Ralph D. Central Staff (Transportation)  
Goodman, Dr. Jerry D. Central Staff (Research Information Systems)  
Irwin, Donald A. Central Staff (Research Information Systems)

**PMRS:** James E. Bennett Central Staff (Finance)  
Raymond P. Hilbert Central Staff (Research Information Systems)

Medical Information Systems Department (Code 20)

**Performance:** Pearsall, Dianna M. Wilcox, Walter W.

**Quality Step Increase:** Christopher G. Blood

**PMRS:** William Pugh

Occupational Medicine Department (Code 30)

**Performance:** Burr, Ralph G. Miller, Milan R.  
Coben, Patricia A. Palinkas, Dr. Lawrence A.  
Gorham, Edward D. Shaw, Eddie K.  
Jackson, Frances R. Thompson, Frank A.  
McNally, Michael S. White, Martin R.

**PMRS:** Dr. Frank C. Garland

Health Psychology Department (Code 40)

**Performance:** Conway, Susan W. Hilton, Susan M.  
Conway, Terry L. Trent, Linda K.

**PMRS:** Dr. D. Stephen Nice

Behavioral Psychopharmacology Department (Code 50)

**Performance:** Bellune, Julia J. Gomez, Steven A. Irwin, Cora L.

Ergonomics Department (Code 60)

**Performance:** Englund, Dr. Carl E. Ryman, David H. Sinclair, Matthew

**Quality Step Increase:** Castelli, Viola C.

Applied Physiology Department (Code 70)

**Performance:** Beckett, Marcie B. Hervig, Linda K.  
Goforth, Jr., Dr. Harold W. Vickers, Jr., Dr. Ross R.

## 1988 Length of Federal Government Service Certificates

The following staff were presented length of service certificates on 24 Jun 88  
for:

### 40 Years - Federal Government Service

E. K. Eric Gunderson	Chief Scientist, OCO
Frank Thompson	Occupational Medicine Department

### 25 Years - Federal Government Service

Dwayne Castleberry	Central Staff (Research Information Systems)
Brenda M. Crooks	Office of the Commanding Officer
Milan Miller	Occupational Medicine Department

### 20 Years - Federal Government Service

Jane R. Banks	Central Staff (Personnel)
James E. Bennett	Central Staff (Finance)
Richard F. Booth	Central Staff (Research Information Systems)
Betty E. Croft	Central Staff (Library)
Raymond P. Hilbert	Central Staff (Research Information Systems)
Anne L. Hoiberg	Health Psychology Department
Donald A. Irwin	Central Staff (Research Information Systems)
Frances R. Jackson	Occupational Medicine Department
Dr. Paul Naitoh	Ergonomics Department
David H. Ryman	Ergonomics Department
Walter W. Wilcox	Medical Information Systems Department

### 15 Years - Federal Government Service

Mary E. Aldous	Central Staff (Library)
Patricia A. Coben	Occupational Medicine Department
Ralph D. Garcia	Central Staff (Transportation)
Linda K. Hervig	Applied Physiology Department
M. Joyce Johnson	Health Psychology Department
Dr. Stephen R. Nice	Health Psychology Department
William Pugh	Medical Information Systems Department
Matthew Sinclair	Ergonomics Department

### 10 Years - Federal Government Service

Terry L. Conway	Health Psychology Department
Beverly E. Donnell	Central Staff (Finance)
Dr. Carl E. Englund	Ergonomics Department
Prima Fontanares	Central Staff (Research Information Systems)
Lawrence A. Hermansen	Medical Information Systems Department
Dr. James A. Hodgdon	Applied Physiology Department
Cora L. Irwin	Behavioral Psychopharmacology Department
Michael S. McNally	Occupational Medicine Department
Dr. Cheryl L. Spinweber	Behavioral Psychopharmacology Department
Dr. Ross R. Vickers, Jr.	Applied Physiology Department

## 1988 Length of NHRC Service Certificates

### 25 Years - Naval Health Research Center

Dr. E. K. Eric Gunderson	Chief Scientist
Frank A. Thompson	Occupational Medicine Department

### 20 Years - Naval Health Research Center

Dwayne Castleberry	Central Staff (Research Information Systems)
Brenda M. Crooks	Office of the Commanding Officer
Anne L. Hoiberg	Health Psychology Department
Milan R. Miller	Occupational Medicine Department
Dr. Paul Naitoh	Ergonomics Department
David H. Ryman	Occupational Medicine Department

### 15 Years - Naval Health Research Center

James E. Bennett	Central Staff (Finance)
Richard Booth	Central Staff (Research Information Systems)
Patricia A. Coben	Occupational Medicine Department
Linda K. Hervig	Applied Physiology Department
Raymond P. Hilbert	Central Staff (Research Information Systems)
Donald A. Irwin	Central Staff (Research Information Systems)
Frances F. Jackson	Occupational Medicine Department
William Pugh	Medical Information Systems Department
Matthew Sinclair	Ergonomics Department

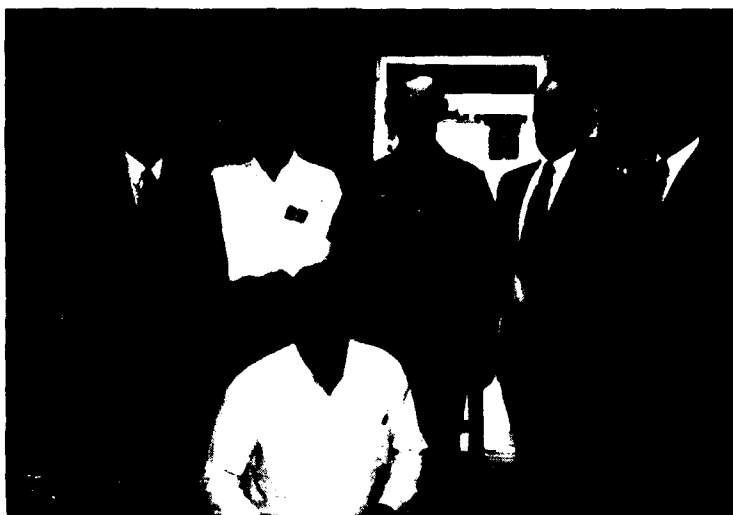
### 10 Years - Naval Health Research Center

Terry Conway	Health Psychology Department
Dr. Carl Englund	Ergonomics Department
Ralph D. Garcia	Central Staff (Transportation)
Lawrence A. Hermansen	Medical Information Systems Department
Michael S. McNally	Occupational Medicine Department
Dr. D. Stephen Nice	Health Psychology Department
Dr. Cheryl L. Spinweber	Behavioral Psychopharmacology Department
Dr. Ross R. Vickers, Jr.	Applied Physiology Department

### 5 Years - Naval Health Research Center

Christopher Blood	Medical Information Systems Department
Ralph Burr	Occupational Medicine Department
Beverly Donnell	Central Staff (Finance)
Dr. Frank Garland	Occupational Medicine Department
Dr. James A. Hodgdon	Applied Physiology Department
Cora L. Irwin	Behavioral Psychopharmacology Department
Linda Trent	Health Psychology Department





PMRS Recipients  
Dr. Garland Mr. Hilbert (CAPT Chaney) Mr. Bennett Dr. Nice

**FY-88 LETTER OF COMMENDATION**

To: **Christopher Leake**  
From: Alan W. Langer, Ph.D., ASEE Fellow  
Subj: Letter of Commendation

26 Jul 88

1. For **Mr. Leake's** outstanding professional contribution to the Reactivity Study demonstrating an unwavering dedication to all study phases since its inception to completion as set for: rewriting and reorganizing sections of protocols, organizing and proving in-house training programs for all investigators, to include effective management of extensive sets of subject paper work, how to accurately make various physiological measures up to the organization of an effective data base, record keeping, scheduling of subjects, and inventory of essential equipment and supplies. During data collection phase your participation and organization went "well beyond the call of duty." Finally establishing a critical link with UCSD Medical Center that resulted in an important collaboration made possible for us to obtain many of the necessary plasma bio-assays that were an integral feature of this project.

**1987 LETTERS OF APPRECIATION**

To: **William Pugh, Dianna Pearsall, and Nancy Adams**  
From: Commanding Officer, Navy Regional Data Automation Center, Washington  
Subj: Letter of Appreciation

7 Apr 87

1. For their support from 17 February to 6 March in implementation of the Navy Occupational Health Information Management System (NOHIMS) at NARDAC, and to Ms. Pearsall and Ms. Adams who worked evenings to accomplish the task of initializing NOHIMS to be used for the End Users Conference in Norfolk, Virginia, with the NARDAC Washington System.

To: **Ms. Terry L Conway, Dr. James A. Hodgdon, and Dr. Terry A. Cronan**  
From: Commanding Officer, Navy Environmental Health Center, Norfolk  
Subj: Letter of Appreciation

20 Apr 87

1. For their presentations given at the 29th Navy Occupational Health and Preventive Medicine Workshop, 28 February - 5 March.

To: **Prima Fontanares, Brenda Crooks, and Lucile Cheng** 12 May 87 and 16 Jul 87  
From: Commanding Officer, Naval Health Research Center  
Subj: Letter of Appreciation

1. For **Mrs. Fontanares** and **Ms. Crooks'** assistance in the reception and **Ms. Cheng's** design and graphics of the program for the two Change of Command ceremonies.

FY 1988

To: **Dr. Carl Englund** 19 Jan 88  
From: Commanding Officer, Navy Personnel Research and Development Center, San Diego  
Subj: Letter of Appreciation

1. For participating in the NAVPERSRANDCEN Chemical, Biological and Radiological (CBR-D) Research Review Conference. **Dr. Englund's** presentation not only made the Fleet and Training communities aware of the type of research NHRC is conducting, but also indicated the sources and problems of research funding. His participation helped the Conference achieve its objective of making the Navy Training and fleet communities aware of the Navy Research community's involvement in CBR-D and soliciting their input to the research planning process.

To: **Milan "Bud" Miller** 8 Mar 88  
From: DEERS Program Office, Office of the Secretary of Defense  
(Gary L. Pulvermacher, Major, USAF, BSC; RDDB Project Manager)  
Subj: Letter of Appreciation

1. To commend **Mr. Milan "Bud" Miller** and his staff for exemplary service to beneficiaries of Department of Defense health care. As project manager for the Office of the Assistant Secretary of Defense (Health Affairs) Reportable Diseases Data Base (RDDB), I requested each Service's data base manager to submit all force testing dates and results for Human Immunodeficiency Virus (HIV) to my office. The purpose of this initial data base load was to establish a baseline for calculating prevalence and, eventually, incident rates for HIV infection in the military. Due to his complete cooperation, highly professional skills, and can-do attitude, the RDDB system was successfully migrated to the DEERS Enrollment Data Base, and initial results provided to officials within Health Affairs. His support was exceptional due to the numerous short notice requests and problems encountered which were beyond anyone's control. Please convey my appreciation for a job well done.



Bud Miller

CAPT Chaney

To: **Ms. Terry L. Conway and Ms. A. Hoiberg** 30 Mar 88, 1 Apr 88  
From: Commanding Officer, Navy Environmental Health Center, Norfolk  
Subj: Letter of Appreciation

1. For their participation in the 30th Navy Occupational Health and Preventive Medicine Workshop, Virginia Beach, VA, 27 Feb-3 Mar 88 in making this program a great success and support of this year's workshop. Both **Ms. Hoiberg's** and **Ms. Conway's** Poster Session presentations were conducted in an extremely professional manner.

2. **Ms. Conway's** presentation in the preworkshop course entitled "Navy Health Promotion and Physical Readiness Program Update" provided information on the significant findings of research conducted at the Naval Health Research Center concerning the status of this program for various communities was beneficial to a variety of health professionals. Numerous comments from the participants specifically complimented **Ms. Conway's** presentation as being quite informative.

**Letters of Appreciation cont.**

To: **Dallas R. Hodgins** 28 Apr 88  
From: Linda S. Elting, M.P.H., Research Project Coordinator, Section of Infectious Diseases, University of Texas System Cancer Center, Houston  
Subj: Letter of Appreciation

1. For use of the Statistic package developed by **Mr. Hodgins** for the NOHIMS project. The programs were tested with known data sets and found both accurate and user friendly. The VA FileManager programs are being used for their clinical research in infectious diseases in cancer patients. The statistics programs were very helpful in taking 'first looks' at data and for selecting and refining variables prior to final analysis. The UTSCC research program has certainly benefited from the excellent work done by NHRC. Thank you again for your cooperation.

**FOR: Milan "Bud" Miller**

From: Assistant Secretary of Defense, Health Affairs 26 Jul 88  
Memorandum for Director, Naval Medicine  
Subj: Letter of Appreciation for Mr. Bud Miller

In December 1987, The Department of Defense convened a Tri-Service Working Group to develop a Reportable Disease Data Base (RDDB) to standardize a method of reporting prevalence and incidence of Human Immunodeficiency Virus (HIV) infection among military personnel, to provide a "look-back" system to help protect the military blood supply, and to provide a foundation for surveillance of other diseases of military importance.

As a member of the RDDB working group, Mr. Bud Miller has been instrumental in bringing this project to fruition. His cooperative attitude, professional skills and desire to see a job well done have provided the Department of Defense with a much needed and exemplary data management system. Please extend my personal thanks to Mr. Miller.  
WILLIAM MAYER, M.D.

FIRST ENDORSEMENT on ASD (HA) ltr dtd 26 Jul 88 18 Aug 88  
From: Chief of Naval Operations  
To: Commander, Naval Medical Command

Forwarded. ...Pleasure to recognize Mr. Bud Miller his valuable efforts while serving on the DOD Tri-Service Working Group. He worked to develop a standardized method for reporting of prevalence and incidence of HIV in military personnel. His efforts also directed in the development of a look-back system to protect our blood supply from infectious agents. Mr. Miller is to be commended on a job well done.  
JAMES A. ZIMBLE, Director, Naval Medicine

SECOND ENDORSEMENT on ASD (HA) ltr dtd 26 Jul 88 30 Aug 88  
From: Commander, Naval Medical Command  
To: Commanding Officer, Naval Health Research Center

Forwarded, ...added appreciation for a job "Well Done."  
H. JAMES T. SEARS

To: **Mrs. Lorene Irwin and Messrs. Larry Matteson and Steve Gomez** 3 Aug 88  
From: Chief of Naval Research, Arlington, Virginia  
Subj: Letter of Appreciation

1. In July, 25 high school science students, winners in the Secretary of the Navy sponsored 1988 Naval National Science Awards Program, received a science-oriented visit to San Diego. As guests of the Secretary of the Navy, the students had the opportunity to visit a number of Navy scientific-oriented activities during their stay. Their tour to Naval Hospital, Balboa, included the Sleep Laboratory whose briefings were most interesting and informative given by **Mrs. Irwin, Messrs Matteson and Gomez.**

To: **Mary Aldous, Betty Croft, Terry Conway**  
From: Doris A. Abood, Associate Professor, College of Education  
Subj: Letter of Appreciation

23 Sep 88

1. For their support to Dr. Abood during her summer ASEE experience. To **Ms. Conway** for sharing in her comprehensive health picture of the Health and Physical Readiness project she has produced and excellent working environment; to **Mrs. Aldous** and **Mrs. Croft** for their highly professional assistance and untiring efforts in maintaining the excellent NHRC library.

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Aug/Sep 88: Mr. Gomez (back)  
Mrs. Aldous Ms. Conway CAPT Chaney Mrs. Croft  
Mrs. Irwin (kneeling) HM2 Canimo (see pg. 130)



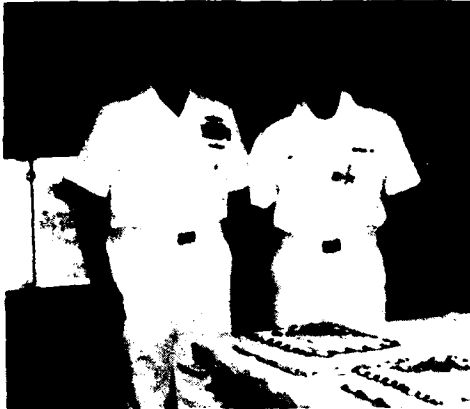
Apr 88: D. Hodgins CAPT Chaney



Jul 88: CAPT Chaney Bud Miller



Mar/Apr 88: Ms. Hoiberg CAPT Chaney



CDR Dean

CAPT Fornes

## Change of Command and Retirement

Friday, 8 May 1987  
0900

Captain Michael F. Fornes, MC, USN  
retired having served 26 years of active  
Naval Service and was relieved by  
Commander Larry M. Dean, MSC, USN

## Change of Command

Thursday, 16 July 1987  
0900

Commander Larry M. Dean, MSC, USN  
was relieved by  
Captain Robert D. Chaney, MC, USN



CAPT Chaney

CDR Dean

## Retirements



Having completed over 32 years of active Naval Service, LCDR A. Robert Donohue, MSC, USN, Administrative Officer, transferred to the Retired List on 29 February 1988, effective 1 March 1988. A retirement ceremony was held at the Officer's Club, Submarine Base, San Diego.



Having completed 20 years of active Naval Service, HM1 Gary Anderson, USN, transferred to the retired list 1 May 1988. A ceremony was held at the NPRDC Flag Pole and a luncheon at the North China Restaurant.

## 1987 and FY-88 Visitors\*



6 Nov 87: Brigadier Fagerhaug, Norway



27 Apr 88: VADM J. A. Zimble, MC, USN

### January - September 1987

#### January 1987

- 6 San Diego State University, San Diego, California: Rob Carlson, Ph.D., Chairman, Department of Physical Education. "Update on BUDS Training Attrition and Carlson's Wellness and Activity Profile." (Code 70)
- 6-9 Naval Submarine Medical Research Laboratory, Groton, Connecticut: Dr. Saul Luria. (LT Kobus)
- 8 Naval Medical Research Institute, Bethesda, Maryland: Dr. L. Kieson, Scientific Director. (Dr. Garland)
- 9 Ms Lynn Cox (Code 70)
- 8-9 Naval Hospital, Bethesda, Maryland: CDR F. D. Daniell, MC, USN, Navy HIV Project Officer and HMC J. Gates, USN. (Dr. Garland, Mr. Gorham, Mr. Miller, LCDR Helmkamp, Dr. Gunderson)
- 15 Project Directors for SAMS, Washington--DC, Medical Readiness and Theater Systems (MRTS): Col Gerald Johnson, USAF, MSC, and Defense Medical System Support Center (DMSSC): LT Robert E. Glaser, MSC USN. (CO, XO, LCDR Helmkamp, Mr. Pugh, Mr. Blood, Dr. Gunderson)
- 20 Harborview Hospital, Seattle, Washington: Dr. Cliff Hermann & Dr. Arden Forrey, "Automated Information Processing for Trauma Care" (Code 20)
- 21 Naval Medical Research and Development Command, Bethesda, Maryland: CDR R. Wolf, Fleet Occupational Health Program Manager. (Dr. Garland)
- 22 Naval Medical Research Institute, Bethesda, Maryland: Dr. Lutz Kiesow, Scientific Director, "NHRC's Computerized Medical Data Resources" (Code 20)
- 27 University of West Virginia, Pediatrics Department: Dr. William A. Neal, Professor and Chairman, and Chairman, Naval Research Advisory Committee (NRAC) and Captain Ray Chaput, Executive Secretary, NRAC. (Command)
- 28 Naval Training Center, San Diego, California: Chaplains Turner and LaVelle, "Suicide in the Military." (Dr. Palinkas & Ms. Coben)

#### February 1987

- 4 Student Career Day, "Discussion with a Student on a Career in Clinical Psychology" (Ms. Coben)

\* Any omissions are purely unintentional.

**February 1987 cont.**

- 6 University of California, Irvine Medical Center, Orange, California: Frederick L. McGuire, Ph.D., Department of Psychiatry and Human Behavior. (Ms. Hoiberg)
- 11 Naval Hospital, San Diego, California: CDR Stephanie Brodine, Internal Medicine, Infectious Diseases Department. (Dr. Garland)
- 17 Office of Naval Research, Arlington, Virginia: Dr. Donald P. Woodward (Dr. Naitoh)
- 17-18 Canadian Armed Forces: LCDR W. F. Lewis, "Canadian's Health SIM Project and Review of Life Quality Improvement Program" (Dr. Cronan)
- 19 Naval Weapons Center, China Lake, California: CDR Herman, Commanding Officer, Branch Medical Clinic; Dr. E. Rouce, Technology Base Director; Mr. Schaniel, Technical Director & Administrative Head, Ordnance System Director. (Dr. Garland)
- 23 Naval Hospital, San Diego, California: Dr. George Luiken, Department of Oncology. (Dr. Garland)
- 23-24 NASA Ames Research Center, Moffett Field, California: Dr. R. Curtis Graeber, LtCol, USA, Director, Field Research, Aerospace Human Factors Research Office. (Dr. Spinweber)
- 25 Cyometrics, Inc., Bel Air, Maryland: Dr. William J. Sacco, President. (Dr. Garland)
- Month Scripps Clinic and Research Foundation, La Jolla, California: John R. Rudd, M.D., 1986-87 Fellow in Sleep Disorders Medicine. (Code 50)

**March 1987**

- 2-4 National Defence, Canadian Defence Liaison Staff, Washington, DC: Curtis L. Allen, Defence Research and Development Liaison Officer. (Office of the Commanding Officer, Codes 40, 50, 60, 70)
- 9-12 Naval Medical Research and Development Command, Bethesda, Maryland: LCDR G. Banta, MSC, USN, Program Manager. (Command)
- 10 U.S. Army Research, Development, and Engineering Center, Natick, Massachusetts: Dr. Richard Popper. (Dr. Spinweber)
- 17 University of California at Los Angeles, California: Dr. Bert Montebal. "Connective Tissue Damage from Physical Training" and "Histochemical/Biochemical Analysis of Damage" (LT Norton)

**April 1987**

- 2 Veterans Administration Hospital, San Diego, California: Drs. Kripke and Parry, "Coordinate Joint DOD/VA Research Project" (Dr. Englund)
- 7 University of Arizona, Tucson, Arizona: Dr. R. Watson, Research Associate Professor, Department of Family and Community Medicine. (Dr. Garland)
- Naval Coastal Systems Command, Panama City, Florida: Max Lippett, Thermal Protection Researcher. (Dr. Goforth)
- 6-10 Defence and Civil Institute of Environmental Medicine, Downsview, Canada: Robert Angus. (Dr. Naitoh).
- 9-13 Syracuse University, Syracuse, New York: Dr. Lawrence J. Lewandowski, Professor of Psychology (ASEE Pre-site visit). (LT Kobus)
- 13 Embassy of France: Dr. Belard, Assistant Armament Attache for Health Affairs. (Dr. Englund)



## May 1987

- 7 National Research Council Associateship Program Office, Washington, DC: Dr. Thomas C. Rozzell. (Dr. Gunderson)
- Naval Training Systems Center, Orlando, Florida: Dr. Driskell, Human Factors Division. (Dr. Englund)
- 15 University of California, Irvine Medical Center, Orange, California: Frederick L. McGuire, Ph.D., Department of Psychiatry and Human Behavior. (Ms. Hoiberg)
- 19 University of Florida, Gainesville, Florida: Professor Wilse B. Webb, Department of Psychology. (Command)

## June 1987

- 1-31 Jul University of Missouri at Rolla, Rolla, Missouri: Dr. Tom D Sager, Computer Science Department, ASEE Fellow. (Code 20)
- 1-14 Aug University of Missouri at Columbus, Missouri: Dr. David McDonald. ASEE Fellow. (NTC Code 70)
- 2-3 Marine Corps Air Station, El Toro, California: LCDR John Coyne, MSC, USN, 3rd Marine Air Wing. (LCDR Helmkamp)
- 3 UCSD Cancer Center, UCSD School of Medicine, La Jolla, California: Dr. Cedric Garland, Director, Epidemiology Program. (Dr. Garland)
- 10-Aug 11 Syracuse University, Syracuse, New York: Dr. Lawrence J. Lewandowski, Professor of Psychology (ASEE Fellow). (LT Kobus)
- 11 West German Navy: CDR Klintzing (LT Kobus)
- 13 Syracuse University, Syracuse, New York: Dr. Alan Langer. (Dr. Hodgdon)
- 17-18 Naval Medical Research Institute, Bethesda, Maryland: CDR Sippel, Head, Biotechnology Branch. (Dr. Garland & Dr. Palinkas)
- 18 Naval Medical Research and Development Command, Bethesda, Maryland: CAPT M. Kilpatrick, MC, USN, Program Manager. (Dr. Garland & Dr. Palinkas)
- 30-1 Jul Naval Aerospace Medical Research Laboratory, Pensacola, Florida: CAPT Blackwell & LT Reeves. (Command)

## July 1987

- 7 Naval Sea Command, Washington, DC: LT Rick Jones, SPECWAR Rep. (Dr. Goforth)
- 8 UCSD School of Medicine, Department of Pediatrics, Division of Infectious Diseases, La Jolla, California: Dr. James Connor, Professor. (Dr. Garland)
- 9 Naval Aerospace Medical Research Laboratory, Pensacola, Florida: Dr. Chuck Dejohn. (Dr. Spinweber)
- 17 Arizona State University, Tempe, Arizona: Dr. Jim Skinner, Professor, Physical Education Department. (Dr. Goforth)
- 21-22 Navy Environmental Health Center, Norfolk, Virginia: CDR Allen. (Code 20)
- 20-21 Royal Australian Navy: Dr. Robert Salas (LT Kobus)
- 28 Naval Ships Systems Engineering Station, Philadelphia, Pennsylvania: Mr. Lindsey Penson. (Dr. Garland)
- Naval Sea Systems Command, Washington, DC: Rolf Hansen. (Dr. Englund)
- 28-31 Universite de Quebec, Department of Kinanthropologie, Montreal, Canada: Jean Boucher Ph.D., Professor. (Code 70)

**July 1987 cont.**

- 29 OP-01B, Washington, DC: LT D. Styer. (LT Kobus)  
Naval Aerospace Medical Research Institute, Pensacola, Florida: Dr. Bob Weinberg, Researcher, Dive Medicine Department. (Dr. Goforth)
- 30 Marine Corps Liaison Office, Naval Ocean Systems Center, San Diego, California: LtCol J. F. Bouldry, USMC. (CAPT Chaney)

**August 1987**

- 3 Naval Personnel Research and Development Center, San Diego, California: Russell M. Vorce. (CAPT Chaney)
- 5-7 Naval Medical Research and Development Command, Bethesda, Maryland: LCDR G. Banta, MSC, USN, Program Manager. (Command)
- 11-18 Naval Submarine Medical Research Laboratory, Groton, Connecticut: Dr. Saul Luria. (Dr. Englund, LT Kobus)
- 13 Watchcare Corporation, Bainbridge Island, Washington: Dennis Vogt. (Ms. Hoiberg)
- 21 University of California at Los Angeles, California: Dr. Art Vailas, Professor, Kinesiology Department, and Dr. Bert Mandelbaum, Team Physician, Orthopedic Division, Medical School. (Dr. Goforth)
- 31 La Mesa, California: Dr. L. C. Johnson (CAPT Chaney)
- 31-3 Sep Defence and Civil Institute of Environmental Medicine, Toronto, Canada: Dr. Ira Jacobs, Applied Physiology Section Head. (Code 70 and OCO)

**September 1987**

- 2 Defense Personnel Security Research and Education Center, Monterey, California: CAPT Ken Karols, MC, USN. (Dr. Palinkas)  
Naval Medical Command, Washington, DC: William M. Griffith, Force Master Chief. (CAPT Chaney)  
Naval Medical Command, Southwest Region, Naval Hospital, San Diego: HMCM(SS) Don Gulihur, Command Master Chief (CAPT Chaney)  
Naval Medical Research and Development Command, Bethesda, Maryland: CDR Peter Kent, MSC, USN, Submarine & Diving Program Manager. (Command)  
Naval Military Personnel Command, Washington, DC: LCDR Rod Fierek (N-68). (Ms. T. Conway)
- 8 Naval Environmental and Preventive Medicine Unit No. 5, San Diego, California: LCDR Pappadimos. (CAPT Chaney)
- 16 Headquarters U.S. Marine Corps, Washington, DC: Major Dewey Tucker, USMC. (Dr. Garland and Dr. Gunderson)
- 16 Naval Aerospace Medical Research Laboratory, Pensacola, Florida: Dr. John deLorge and Dr. Robert Stanny. (Dr. Naitoh)
- 24 Naval Sea Systems Command, Washington, DC: Rolf Hansen. (Dr. Englund)
- 24 Navy Personnel Research and Development Center, San Diego, California: Tom Enderwick. (Dr. Englund)

**FISCAL YEAR-88 (OCTOBER 87-SEPTEMBER 88) VISITORS**

**October 1987**

- 5-6 Naval Military Personnel Command, Washington, DC: LCDR Michael D. Curley (N68), "Health and Physical Readiness Programs." (OCO, Ms. Conway, Code 40)
- 6 Commander Naval Surface Force, Pacific Fleet, Naval Amphibious Base, Coronado, San Diego, California: CAPT J. Crim, Force Medical Officer and Master Chief Trevino. (CAPT Chaney)
- 13 Fleet Antisubmarine Warfare School, San Diego, California: LT Arthur Scrivener. (LT Kobus)
- 13-14 U.S. Public Health Service, Seattle, Washington: Thomas R. Bonifield, Research Scientist, and University of Washington, Seattle, Washington: Arden W. Forrey, Ph.D. (Ms. Hoiberg and OCO)
- 14 University of Minnesota, School of Medicine, Duluth, Minnesota: Dr. Robert Pozos, Cold Researcher, Physiology Department. (Dr. Goforth)
- 16 Office of Naval Research, Arlington, Virginia: Dr. Frank Hemple; University of Minnesota, Medical School, Duluth, Minnesota: Dr. Robert Pozos and Dr. Lorenzo Wittmer; U.S. Army Institute of Environmental Medicine, Natick, Massachusetts: Dr. Don Roberts, Cold Division. (Dr. Hodgdon)
- 20-21 Naval Dental Research Institute, Great Lakes, Illinois: CDR Mark Diehl, DC USN (Command)
- 28-29 Naval Ship Systems Engineering Station, Philadelphia, Pennsylvania: Mr. Lindsay Penson, "Shipboard Hazardous Materials Reduction (SHMR) Project." (Mr. White)

**November 1987**

- 6 Brigadier Nils H. Fagerhaug, Medical Inspector Army, Headquarter Defence Command Norway, Oslo, Norway (CAPT Chaney)
- 19-20 U.S. Army, Walter Reed Army Institute of Research, Washington, DC: LtCol Gerald P. Krueger. (Dr. Naitoh)
- 19-20 Defence and Civil Institute of Environmental Medicine, Downsview, Canada: Robert Angus. (Dr. Naitoh).

**December 1987**

- 4 Naval Medical Research Institute, Bethesda, Maryland: CDR Craig Hyams, MC USN, Infectious Diseases Department. (Dr. Palinkas)
- 7 MATRIS, San Diego, California: Lois Richards (CAPT Chaney)
- Naval Medical Research and Development Command, Bethesda, Maryland: CAPT Michael E. Kilpatrick, MC, USN, Infectious Disease Program Manager. (CAPT Chaney)
- 12 NSWC-WO, Silver Springs, Maryland: Fred Wilson, NSAP. (CAPT Chaney)
- 14 Marine Corps RADC, Quantico, Virginia: Edmond D. Goucher. (CAPT Chaney)
- 15 Naval Aerospace Medical Research Laboratory, Pensacola, Florida: CAPT James Houghton, Commanding Officer. (CAPT Chaney)
- Smyrna, Georgia: Lois A. James. (CAPT Chaney)
- 15-16 Vanderbilt University, Nashville, Tennessee: Dr. Kenneth Wallston, Professor of Psychology. (Command)

**December 1987 cont.**

- 21 Naval Military Personnel Command, Washington, DC: Dennis Spillour (NMPC-68)  
CAPT Chaney)
- 87-Year-Round Visiting Scientist, San Diego, California: Dr. Laverne C.  
Johnson (Retired), former Chief Scientist. (Code 50)

**January 1988**

- 2 University of Nevada, Department of Psychiatry, Reno, Nevada; Professor  
Richard H. Rahe (Dr. Palinkas)
- 4 COMNAVAIRPAC, Naval Air Station, North Island, San Diego, California: LCDR  
Jerry Linenger, USN. (CAPT Chaney)
- 13 State of California Hypertension Control Program, Council of Community  
Clinics, San Diego, California: Ms. Josephine Dennison, Program Administrator  
and Health Educator. (Dr. Du Bois)
- 19 Naval Medical Research and Development Command, Bethesda, Maryland: CDR R.  
Wolf, MSC, USN, Fleet Occupational Health Research Program Manager., (Command)
- Naval Environmental Health Center, Norfolk, Virginia: CDR James Allen, MSC  
USN (Code 40). (Command)

**February 1988**

- 5 Naval Biodynamics Laboratory, New Orleans, Louisiana: CAPT D. W. Call, MSC  
USN, Commanding Officer. (Command)
- 9 University of Nevada, Department of Psychiatry, Reno, Nevada; Professor  
Richard H. Rahe (Command)
- 11 University of Oregon, Eugene Oregon: Mary Ann Holster, LEAAP. (Ms. T Conway)
- 24 OP-01B, Washington, DC: RADM J. S. Diisher, USN. (CAPT Chaney)
- SPAWARSSYSCOM, Washington, DC: CDR R.R. Hudson, USN and L. Alfredson.  
(CAPT Chaney, CDR Dean, Dr. Gunderson)
- Naval Surface Weapons Center, Silver Springs, Maryland: S. Maulk, Naval  
Science Assistance Program. (CAPT Chaney)
- CNO, Washington, DC: R. M. Cassell (01B2) and H. J. Applegate (OP-983D).  
(CAPT Chaney)
- University of California at San Diego, California: Daniel Kripke, M.D.,  
Associate Professor of Psychiatry. (Command)

**March 1988**

- 10 Naval Coastal Systems Center, Panama City, Florida: Mr. Charles Walsh,  
Special Warfare Research Program Monitor. (Dr. Hodgdon)
- 21 Naval Submarine Medical Research Laboratory, Groton, Connecticut: Dr.  
Thomas P. Santoro. (LT Kobus)
- 22 Northern Arizona University, Flagstaff, Arizona: David Arnell, Ph.D. (ASEE).  
(Dr. Goforth)
- 30 Universities Space Research Association, Seabrook, Texas: Dr. Al Holland.  
(Dr. Palinkas)
- Navy Environmental and Preventive Medicine Unit #5, San Diego, California:  
CAPT S. William Berg, MC USN. (CAPT Chaney)

#### April 1988

- 6 University of California at Los Angeles, California: Dr. Arthur Vailas, Professor, Kinesiology Department. (Drs. Hodgdon and Goforth)
- 7 Ames, Iowa: Anthony C. Hackney, Ph.D. (ASEE). (LCDR Kelleher)
- Office of Naval Technology, Arlington, Virginia: CDR T.J. Contreras, MSC USN. (Command)
- 11-14 Naval Medical Research and Development Command, Bethesda, Maryland: CAPT R. W. Gaugler, MSC USN, Executive Officer, and CAPT A. J. Melaragno, MC USN, Director of Research. (Command Inspection Visit)
- 14 Naval Medical Command, Washington, DC: Frank J. Toth (Ø5M), and Naval School of Health Sciences, San Diego, California: LCDR E. M. Scherer, NC USN. (CAPT Chaney)
- 20 Naval Training Center, San Diego, California: LCDR C. Bischoff, MC USN, Senior Medical Officer. (CAPT Chaney)
- 22 Director of Naval Medicine, Naval Operations, Washington, DC: VADM J. A. Zimble, MC USN. (Command)
- 25 University of Missouri-Columbia, College of Arts and Science, Columbia, Missouri: David G. McDonald, Ph.D., Professor, Department of Psychology (ASEE). (Code 5Ø)
- Naval Environmental Health Center, Norfolk, Virginia:
- 25 LCDR James C. Helmkamp, MSC USN. (CAPT Chaney and CDR Dean)
- 28 CAPT W. B. Mahaffey, MC USN, Commanding Officer. (CAPT Chaney)
- 29 1st Marine Amphib Force, FMF, Camp Pendleton, California: CAPT R. W. Browning, MC USN, IMEF Surgeon. (CAPT Chaney)

#### May 1988

- 4-5 Walter Reed Army Institute of Research, Preventive Medicine Division, Washington, DC: CDR Gregory Gray, MC USN. (Dr. Palinkas)
- 7 Lawrence Livermore Laboratory, Pleasanton, California: W. W. Banks. (CAPT Chaney)

#### June 1988

- 7 San Diego, California: T. Berghage. (CAPT Chaney)
- 20 University of California at San Diego, Department of Psychiatry, and Veterans Administration Medical Center, San Diego, California: J. Christian Gillin, M.D.; and Dr. Laverne C. Johnson. (CAPT Chaney)
- 28 25 High School Science Students, Winners of the Secretary of the Navy-sponsored 1988 Naval National Science Awards Program (Visit to Code 5Ø)
- 29 National Research Council, Associateship Programs, Washington, DC: Dr. Thomas C. Rozzell and Associates. (Command Site Visit)

#### July 1988

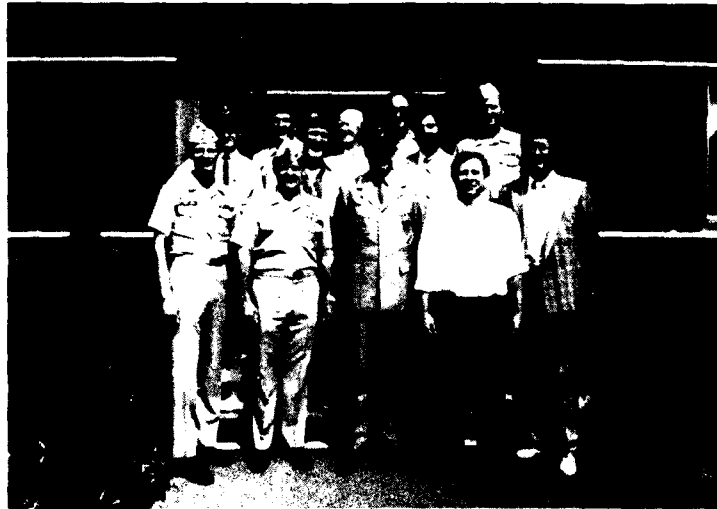
- 27 Science Advisors, Washington, DC: M. Greenslate and E. Hollar. (CAPT Chaney)
- Canadian Embassy, Washington, DC: CDR T. L. Myette, Canadian Medical Liaison Officer. (Dr. Gunderson)

**August 1988**

- 1-4 Bar-Ilan University, Ramat Gan, Israel: Professor Harvey Babkoff. (Dr. Naitoh)
- 10 Director, Medical Doctrine Center, NMC NCR, Bethesda, Maryland: CAPT W. Shivertaker, MC USN, Director. (CAPT Chaney)
- 11 Naval Surface Force, U.S. Pacific Fleet, NAB Coronado, San Diego, California: CAPT J. R. Crim, MC USN; with CAPT Shiertaker. (Mr. Pugh)
- 30 Naval Military Personnel Command, Washington, DC: CDR Mike Curley, Health and Physical Readiness Program (Code 68). (Dr. Hodgdon)

**September 1988**

- 20 Naval Medical Research and Development Command, Bethesda, Maryland: CAPT T. Jones, MSC, USN, Aerospace Medicine and Humaner Performance Program Manager. (Command)



**NHRC visitors:**

- Row 1: LCDR Coyne, CDR Dean, Brigadier Fagerhaug, Mr. Hilbert
- Row 2 (second person): Dr. Englund, Dr. Hodgdon
- Row 3 (far right): CDR Gray

29 Aug - 6 Sep 88: Site visit of NHRC Scientists to Brigadier Nils H. Fagerhaug, Inspector of Medical Service/Army, Headquarters Defence Command Norway, for proposed Norwegian/U.S. research studies.