SUMMARIES OF RESEARCH

FISCAL YEAR 1988

Naval Medical Research and Development Command
Bethesda, Maryland
SUMMARIES OF RESEARCH
Fiscal Year 1988

These summaries cover research carried out from 01 October 1987 through 30 September 1988.

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Approved and released by:

[Signature]

M. C. CECIL III
Captain, Dental Corps
United States Navy
Commanding Officer
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COMMAND OVERVIEW

COMMAND

The Naval Dental Research Institute was officially established on 01 January 1967 with an Officer-in-Charge. The Institute was developed from the Dental Research Facility, which was a division of the Dental Department, Naval Administrative Command, Naval Training Center, Great Lakes. The Institute became a fourth echelon command on 17 August 1969 under a Commanding Officer. The command is under the direction of the Naval Medical Research and Development Command.

MISSION

The Institute is responsible to conduct research, development, test and evaluation in dental and allied sciences, with particular emphasis on the problems of fleet and field dentistry and dental and oral health in Navy and Marine Corps populations.

PERSONNEL

As of 30 September 1988, there were billets for 8 commissioned officers and 14 enlisted members. Additionally, 11 civilians were employed at the Naval Dental Research Institute.

ORGANIZATION

The Institute has undergone reorganization since 1967. The current organization of three major Departments is reflected on the preceding page. The Scientific Investigations Department consists of the Microbiology, Biochemistry and Veterinary Science/Cell Biology Divisions. Respectively, they carry out required microbiological, immunological and bacteriological analyses; biochemical studies of etiological agents and of host factors involved in oral disease; assistance, advice and preparation of specimens for histological analysis; and research in the field of laboratory animal medicine and dentistry. The Clinical Investigations Department conducts research related to prevention and treatment of infections, problems of dento-alveolar trauma and injury, and the delivery of optimal dental care for the naval population. The Research Support Department provides the Institute with supply and fiscal services; library, general administrative services and manuscript preparations; and equipment and facility maintenance, as well as special fabrications and instrumentation support.
STATEMENT OF SIGNIFICANT ACCOMPLISHMENTS

CLINICAL INVESTIGATIONS DEPARTMENT

Specific accomplishments for FY88 include:

-- The prototype program to assist in dental emergency diagnosis and treatment, was completed and will be made available to HSETC for distribution and field trials.

-- Bur sterilization, etched-bonded prostheses, and bur breakage projects were completed.

-- Continued literature challenge of the "burst" theory of periodontal attachment loss progression with publication of two papers.

-- Planned initial stages of third molar studies entitled "A Longitudinal Study of Third Molar Eruption in an 18-24 Year Old Population" and "The Periodontal Prognosis of the Second Molar when the Third Molar is Retained or Missing."

-- From direct taskings of Chief, Navy Dental Corps, OP093D, developed and implemented protocols for determining treatment needs of Navy and Marine Corps reserve personnel and evaluating the longevity and performance of autoclavable highspeed dental handpieces after repeated sterilization cycles.

-- A protocol entitled "Oral Effects of Smokeless Tobacco on Navy Men" was developed as a collaborative effort with investigators at the University of Michigan, School of Public Health.

-- There were four technical reports and/or manuscripts published or accepted for publication.

SCIENTIFIC INVESTIGATIONS DEPARTMENT

During FY88, the Microbiology Division investigated rapid diagnostic methods for identifying military personnel at high risk for acute dental infections. The methods included assays with monoclonal antibodies, DNA probes, and microbial enzyme indicators.

Some specific accomplishments for FY88 include:

-- An enzyme-linked immunosorbent assay (ELISA) procedure for detecting T. denticola was developed with a monoclonal antibody specific for a surface antigen of T. denticola ATCC 33521 and enhanced using a biotin-avidin system.

-- Monoclonal antibodies were developed to T. denticola strains ATCC 33521 and ATCC 33520 which were specific for T. denticola but demonstrated no cross reactivity with other
species of treponemes or other oral microorganisms. The monoclonal antibodies were used in screening clinical samples for these serovarieties of T. denticola.

-- Using two separate human populations, military volunteers and civilians at a university dental clinic, the Treponema denticola content of plaque samples was quantitatively estimated for periodontitis patients and periodontally healthy patients by ELISA. The ratio of T. denticola content per milligram of plaque in patients with severe periodontitis compared to that in healthy controls and patients with moderate disease was 2:1.

-- Using the biotin-avidin enhanced ELISA no significant difference (p 0.27, ANOVA) in T. denticola serovar C content was detected between patients with moderate to severe periodontitis and healthy controls. These results suggest that serovar C was not one of the serovarieties associated with severe periodontal disease.

-- An immuno-fluorescent procedure using monoclonal antibodies against T. denticola ATCC 33521 and ATCC 33520 surface antigens are being used to screen samples from patients with osteitis (dry socket disease). Initial results do not indicate a relationship between disease and T. denticola; however only a limited number of samples have been screened.

-- The normal flora of the rice rat is being determined to develop the rice rat as an animal model for periodontal disease. Procedures have been developed which will provide standardized techniques to sample periodontal flora. The protocols for culturing anaerobic bacteria and preparation of isolated bacteria for gas chromatographic identification have been established.

-- A contract was let to the University of Wisconsin at Madison for development of a gnotobiotic rice rat colony. Preliminary procedures for establishment of a gnotobiotic colony have been unsuccessful.

During FY88, the Biochemistry Division investigated methods to measure potential diagnostic indicators of risk for periodontal disease, such as immune complexes (IC), C-reactive protein (CRP), and microbial trypsin-like activity in oral fluid or plaque samples. Various microorganisms associated with periodontal diseases were studied to identify virulence factors.

Significant accomplishments in these areas included:

-- Chemiluminescent responses of polymorphonuclear neutrophils (PMNs) to periodontal organisms indicated that cell components of microorganisms associated with severe periodontitis can markedly affect PMN oxidative activity.
It was demonstrated that the ELISA-C1q-binding assay could be enhanced by biotin/avidin-labeled reagents resulting in a detection level of 0.6 micrograms heat-aggregated human IgG per ml of gingival fluid. The assay may be applied to measure immune complex levels in gingival fluid samples as a possible diagnostic indicator of periodontal diseases.

Procedures have been developed to detect CRP in human gingival crevicular fluid and pulp samples at a detection level of less than 1.0 picogram/ml.

During FY88, the Veterinary Science/Cell Biology Division evaluated use of the pHC79 cosmid vector for construction of a gene bank for T. denticola strains ATCC 33521 and ATCC 33520 and for B. gingivalis ATCC 33277.

Significant accomplishments of the Veterinary Science/Cell Biology Division in FY88 were as follows:

A Veterinary Consultant was hired part-time to provide care specifically for the nonhuman primate colony and also to monitor the health and well being of other species maintained at this facility.

The animal colony received eight nonhuman primates. The nonhuman primates are currently part of an approved protocol for the study of periodontal disease.
ADDENDUM TO
SUMMARIES OF RESEARCH - Fiscal Year 1988
WORK UNITS - FISCAL YEAR 1988

61153N MR0412002-0045 - The Pathogenesis of Oral and Dental Diseases

63706N M0095003-3028 - Evaluation of New Methods to Prevent and Treat Dental Emergencies in Naval Personnel

61102A 3M16102BS10 DA 440-0 - Development and Evaluation of Methods to Prevent or Intercept Acute Dental Conditions

63514 S1121SL24 396-0 - Shield, Ballistic Face Mark 72 Mod 0

62775A 3S162775A825 AA 088-0 - Evaluation of the Effects of New Approaches on Wound Healing

INDEPENDENT RESEARCH WORK UNITS

61152N MR000.01.01-0055 - An In Vitro Study of the Membrane Potential and Calcium Homeostasis of Alveolar Bone Cells Using Fluorescent Indicators

61152N MR000.01.01-0059 - The Relationship of C-Reactive Protein (CRP) to Periodontal Disease

61152N MR000.01.01-0060 - Identification of Microorganisms Causing Periodontal Disease in the Rice Rat (Oryzomys palustris)


| NDRI-PR 88-01 | A Survey of Civilian Dental Computer Systems |
| NDRI-PR 88-02 | Monoclonal Antibodies That Recognize a Specific Surface Antigen of *Treponema denticola* |
| NDRI-PR 88-03 | Summaries of Research - Fiscal Year 1987 |
| NDRI-PR 88-04 | Diagnostic Value of a Coagglutination Procedure Using Monoclonal Antibodies to *Bacteroides gingivalis* |
| NDRI-PR 88-05 | Susceptibility of Fibronectin to Degradation by Various Gram-Negative and Gram-Positive Oral Microorganisms |
| NDRI-PR 88-06 | Distributions of Periodontal Attachment Levels: Mathematical Models and Implications |
| NDRI-PR 88-07 | False Positive Rates in the Determination of Changes in Probing Depth-Related Periodontal Measurements |
FORMAL PRESENTATIONS MADE AT MEETINGS OF SCIENTIFIC SOCIETIES/GROUPS

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OCTOBER

WALTER, R. G., presented "Dental Treatment Needs of Navy and Marine Corps Personnel", at the Naval Dental Clinic, Philadelphia, PA.


WALTER, R. G., presented "Naval Dental Treatment Needs", at the Naval Dental Clinic, Great Lakes, IL.

NOVEMBER

DIEHL, M. C., presented "Graphic Dental Chart Printout" at the 11th Symposium on Computer Applications in Health Care, Education and Research, Washington, DC.

DIEHL, M. C., presented "Status of a Standard Nomenclature for Oral Disease", at the ASTM Committee, Washington, DC.


WALTER, R. G., presented "Overview of Dental Research in the Navy", at the Third International Dental Congress, Cairo, Egypt.

WALTER, R. G., presented "Overview of Dental Research in Navy and Dental Treatment Needs Survey" at the Naval Dental Clinic, Great Lakes, IL.

FEBRUARY

SCHUTT, R. W., presented a table clinic at the Health Fair Naval Hospital, Great Lakes, IL.

The following presentations were given at the 30th Navy Occupational Health and Preventive Medicine Workshop in Norfolk, Virginia:

ARTHUR, J. S., "Longevity of Restorations in a U.S. Military Population"

COHEN, M. E., "Hypertension Rates in Navy and Marine Corps Personnel from Dental Examination Blood Pressure Records"

HAMILTON, P. M., "Chairside Bur-Sterilization in a Bead Sterilizer"
FORMAL PRESENTATIONS MADE AT MEETINGS OF SCIENTIFIC SOCIETIES/GROUPS (Continued)

FEBRUARY (Continued)

WALTER, R. G., "Treatment Needs in U.S. Navy and Marine Corps Personnel; Restorative, Endodontic, and Oral Surgery"

MARCH

The following presentations were given at the 66th General Session of the International Association for Dental Research in Montreal, Canada.

ARTHUR, J. S., "Treatment Needs in U.S. Navy and Marine Corps Personnel; Restorative, Endodontic and Oral Surgery"

DIEHL, M. C., "Longevity of Restorations in U.S. Military Population"

COHEN, M. E., "Alpha Error in the Determination of "Large" Changes in Periodontal Probing Depth Measurements"

KEARNS, E. A., "Specificity of Monoclonal Antibodies to Two Treponema denticola Serovarieties"

LAMBERTS, B. L., "Influence of Cell Components of Periodontal Microorganisms on PMN Oxidative Activity"

PEDERSON, E. D., "Detectability Limits of Microbial Trypsin-Like Activity in a BAPNA-in-Agar System"

RODDEN, J. W., "Periodontal Treatment Needs of U.S. Navy and Marine Corps Personnel"

SIMONSON, L. G., "Quantitative Immunoassay of Treponema denticola Serovar C in Adult Subgingival Plaque"

SCHUTT, R. W., presented "Glass Bead Sterilization of Surgical Dental Burs" at the Society for Infection Control in Dentistry in Montreal, Canada.

APRIL

KEARNS, E. A., presented "Specificity of Monoclonal Antibodies to Two Treponema denticola Serovarieties" at the Chicago Section of the American Association for Dental Research in Chicago, IL.
MAY

WALTER, R. G., spoke at the Assistant Chief of Staff for Dentistry meeting in Bethesda, Maryland.

COHEN, M. E., presented "Distributions of Periodontal Attachment Levels: Mathematical Models and Implications" at the Task Force on Design and Dental Research in Philadelphia, PA.

RODDEN, J. W., presented "Current Research Activities at the Naval Dental Research Institute" at the Lake County Dental Society meeting.
PARTICIPATION IN PROFESSIONAL PROGRAMS AND OTHER MEETINGS

OCTOBER

The DOD - Defense Health Council Third Worldwide Conference in Leesburg, Virginia was attended by:

DIEHL, M. C. WALTER, R. G.

SCHUTT, R. W., attended the Great Lakes Dental Society meeting, Great Lakes, Illinois.

NOVEMBER

The Naval Medical Research and Development Command Commanding Officers Conference in Bethesda, Maryland was attended by:

HASTINGS, M. G. WALTER, R. G.
SIMONSON, L. G.

ISLEY, D. R., attended the Association of Military Surgeons of the United States meeting in Las Vegas, Nevada.

The following personnel attended an Animal Handling Workshop at Wright-Patterson AFB, Ohio:

CARROLL, A. L. NEIL, L. C.
HAMILTON, P. M. PEDERSON, E. P.
LAWHORN, M. A RODDEN, J. W.
MAPES, T. L. SCHUTT, R. W.
MORTON, H. E. WALTER, R. G.

SCHUTT, R. W., attended the Chicago Section of the American Association for Dental Research meeting, Chicago, Illinois.

DECEMBER

KUEHNE, J. C., attended the Chicago Section of the American Association for Dental Research meeting, Chicago, Illinois.

SCHUTT, R. W., attended the Great Lakes Dental Society meeting.

JANUARY

The Chicago Section of the American Association for Dental Research meeting, in Chicago, Illinois was attended by:

KUEHNE, J. C. SCHUTT, R. W.
LAMBERTS, B. L. WALTER, R. G.
PARTICIATION IN PROFESSIONAL PROGRAMS AND OTHER MEETINGS

(Continued)

JANUARY (Continued)

MAPES, T. L., attended the visiting professionals course on addictions at the Naval Hospital, Great Lakes, Illinois.

RODDEN, J. W., attended a comprehensive review course in periodontics at Louisiana State University, School of Dentistry, New Orleans, Louisiana.

WALTER, R. G., attended the first meeting of the Tri-Service Dental Needs Survey Standardization Task Force, Washington, D.C.

FEBRUARY

The Chicago Dental Society Midwinter meeting and Dental Reserve Luncheon was attended by:

ARTHUR, J. S. KUEHNE, J. C.
DIEHL, M. C. SCHUTT, R. W.
HAMILTON, P. M. WALTER, R. G.

ISLEY, D. R., attended the Northern Illinois Health Care Administrators Forum at the Chicago Medical School, North Chicago, Illinois.

MARCH

The 66th General Session of the International Association for Dental Research in Montreal, Canada was attended by:

ARTHUR, J. S. MAPES, T. L.
COHEN, M. E. PEDERSON, E. P.
DIEHL, M. C. RODDEN, J. W.
HAMILTON, P. M. SCHUTT, R. W.
KUEHNE, J. C. SIMONSON, L. G.
LAMBERTS, B. L. WALTER, R. G.

DIEHL, M. C., attended the Computing and Informatics meeting of the American Association of Dental Schools in Montreal, Canada.

DIEHL, M. C., attended the American Dental Association Standards Planning Committee meeting in Montreal, Canada.

SCHUTT, R. W., attended the Instructor CPR training course at the Naval Hospital, Great Lakes, Illinois.
PARTICIPATION IN PROFESSIONAL PROGRAMS AND OTHER MEETINGS  
(Continued)

MARCH (Continued)

The following personnel attended the 30th Navy Occupational Health and Preventive Medicine Workshop in Norfolk, Virginia:

ARTHUR, J. S.  
HAMILTON, P. M.
COHEN, M. E.  
WALTER, R. G.

APRIL

ISLEY, D. R., attended the Shore Required Operational Capabilities (SHOROC) course in Bethesda, Maryland.

LAMBERTS, B. L., attended the Lake Forest College Sigma Xi Chapter meeting in Lake Forest, Illinois.

SCHUTT, R. W., attended the Oral Diagnosis/Oral Medicine course in Bethesda, Maryland.

SCHUTT, R. W., attended the American Dental Association Research meeting in Chicago, Illinois.

SCHUTT, R. W., attended the Great Lakes Dental Society meeting.

The Chicago Section of the American Association for Dental Research at Northwestern University was attended by:

KEARNS, E. A.  
SIMONSON, L. G.

A site review of Southern Biotechnology in Birmingham, Alabama was attended by:

SIMONSON, L. G.  
WALTER, R. G.

WALTER, R. G., conducted a site review of the Office of Naval Research contracts at the University of North Carolina in Chapel Hill, North Carolina.

WALTER, R. G., conducted a site review of ONR contracts at the University of Maryland in Baltimore, Maryland.
PARTICIPATION IN PROFESSIONAL PROGRAMS AND OTHER MEETINGS
(Continued)

MAY

ISLEY, D. R., attended Command Training Team course at the Naval Hospital, Great Lakes, Illinois.

The following personnel attended a training course on the Enable computer program:

COHEN, M. E.  
HALL, J. A.  
ISLEY, D. R.  
KEARNS, E. A.

KLINE, S. L.  
MORTON, H. E.  
PEDERSON, E. P.  
PORTIS, M. J.

The Chicago Section of the American Association for Dental Research was attended by:

KUEHNE, J. C.  
SCHUTT, R. W.

MAPES, T. L., attended the American Society for Microbiology meeting in Miami, Florida.

SCHUTT, R. W., attended the Great Lakes Dental Society meeting.

SCHUTT, R. W., attended the Casualty Care course at the Naval Dental Clinic, Great Lakes, Illinois.

ISLEY, D. R., attended the Northern Illinois Health Care Administrators Forum at the Chicago Medical School, North Chicago, Illinois.

KEARNS, E. A., attended the ATCC course on Gas Chromatographic Analysis of Cellular Fatty Acids for Bacterial Identification in Rockville, Maryland.

KUEHNE, J. C., attended the Chicago Section of the American Association for Dental Research Officer's Annual Planning meeting in Chicago, Illinois.

MAPES, T. L., attended Charles River Laboratory Animals short course in Andover, Massachusetts.

SIMONSON, L. G., attended the review of grant applications at the National Institutes of Health in Bethesda, Maryland.
PARTICIPATION IN PROFESSIONAL PROGRAMS AND OTHER MEETINGS
(Continued)

JULY

ISLEY, D. R., attended the Northern Illinois Health Care Administrators Forum at the Chicago Medical School, North Chicago, Illinois.

LAMBERTS, B. L., attended the 14th International Congress of Biochemistry in Prague, Czechoslovakia.

AUGUST

A course on High Speed Composite Finishing Techniques at the Naval Dental Clinic, Great Lakes, Illinois was attended by:

KUEHNE, J. C. \hspace{2cm} SCHUTT, R. W.

ISLEY, D. R., attended Intermediate Leadership and Management Training (LMET) course at the Naval Medical Command Northeast Region, Great Lakes, Illinois.
Distinguished Visitors

November

LCDR K. T. McMahon, DC, USN, Naval Medical Research Unit #3, Cairo, Egypt.

December

CDR W. Golden, Naval Dental School, Bethesda, Maryland.

Dr. P. Robinson, Northwestern University, Chicago, Illinois.

Ms. J. Galliger, Northwestern University, Chicago, Illinois.

Dr. C. Goodman, Northwestern University, Chicago, Illinois.

D. Grachmal, National Institutes of Health, Bethesda, Maryland.

Dr. W. E. Ludwick, Minneapolis, Minnesota.

January

Dr. K. Weik, Department of Biology, Lake Forest College, Lake Forest, Illinois.

Colonel H. E. Plank, DC, USA, Commander, U.S. Army Institute for Dental Research, Washington, DC.

Dr. G. C. Battistone, Deputy for Research, U.S. Army Institute for Dental Research, Washington, DC.

Ms. K. Teets, Naval Sea Systems Command, Washington, DC.

S. T. Watts, Naval Sea Systems Command, Washington, DC.

February

Dr. J. J. Hefferren, University of Kansas, Department of Pharmaceutical Chemistry, Lawrence, Kansas.

March

Dr. K. Weik, Department of Biology, Lake Forest College, Lake Forest, Illinois.

LCDR K. T. McMahon, DC, USN, Naval Medical Research Unit #3, Cairo, Egypt.

April

J. Croft, University of Wisconsin, Gnotobiotic Laboratory, Madison, Wisconsin.
DISTINGUISHED VISITORS (Continued)

MAY

Mr. K. Johnson, Safety Officer, Naval Medical Research and Development Command, Bethesda, Maryland.


The following visited from the VA Medical Center, Milwaukee, Wisconsin:

Dr. R. M. Jones  D. Simes  R. Bischoff
M. R. Truklar  L. Rodhe
T. Ward  K. Shay

JUNE

J. Morley, Kilegaard and Perry Labs, Inc., Gaithersburg, Maryland.

Dr. W. Starkweather, Kilegaard and Perry Labs, Inc., Gaithersburg, Maryland.

Ms. K. Teets, Naval Sea Systems Command, Washington, DC.

Dr. J. Weintraub, University of Michigan, Ann Arbor, Michigan.

Dr. I. Garcia, University of Michigan, Ann Arbor, Michigan.

JULY

RADM J. W. KOCH, CINCLANTFLT DENTAL, Commanding Officer, Naval Dental Clinic, Norfolk, Virginia.

CAPT C. A. Ciardello, DC, USN, Commanding Officer, Naval Dental Clinic, Great Lakes, Illinois.

Mr. J. F. Steighner, Deputy Director, Internal Review Division, Naval Medical Command, Washington, DC.

CAPT A. J. Melaragno, MC, USN, Director of Research, Naval Medical Research and Development Command, Bethesda, Maryland.

AUGUST

Captain W. H. Snell, Deputy Commanding Officer, Naval Dental Clinic, Great Lakes, Illinois.
DISTINGUISHED VISITORS (Continued)

AUGUST (Continued)

S. Vrebe Correa, Bogota, Colombia.
C. Madrid, Cali, Colombia.
O. Sierra, University of Sn. Carlos, Guatemala.
M. Martinez, Cali, Colombia.

SEPTEMBER

Colonel H. E. Plank, DC, USA, Commander, U.S. Army Institute for Dental Research, Washington, DC.

Mr. G. C. Battistone, Deputy for Research, U.S. Army Institute of Dental Research, Washington, DC.

Mr. J. C. King, U.S. Army Institute of Dental Research, Washington, DC.

Ms. K. Teets, Naval Sea Systems Command, Washington, DC.
HONORS, AWARDS, POSITIONS HELD, CEREMONIES, STAFF ARRIVALS
DEPARTURES AND REENLISTMENTS

OCTOBER

DN A. L. Carroll received a Letter of Commendation from the Commanding Officer for her selection as NDRI's Sailor of the Quarter.

LT D. R. Isley reported for duty from the Naval Hospital, Great Lakes, Illinois.

LCDR J. C. Kuehne reported for duty from the Naval Dental Clinic, Guantanamo Bay, Cuba.

HM2 L. C. Neil reported for duty from the Naval Hospital, Great Lakes, Illinois.

Captain R. G. Walter was appointed Specialty Consultant for Dental Research by RADM Shaffer.

NOVEMBER

LT W. V. Reese received a Letter of Commendation from the Commanding Officer upon transfer from NDRI to the Enlisted Personnel Management Center, New Orleans, Louisiana.

DECEMBER

HM3 S. T. Berry reported for duty from NSHS Bethesda Detachment of the Academy of Health Sciences at Fort Sam Houston, Texas.

HM3 H. E. Morton was promoted to E-5.

HM2 H. E. Morton received a Good Conduct Award.

Captain R. G. Walter was appointed to Tri-Service Dental Needs Survey Standardization Task Force by RADM Shaffer.

JANUARY

DT3 L. A. Rouse was frocked to E-5.

FEBRUARY

CDR J. S. Arthur received a Letter of Commendation and citation for selection as the recipient of the NDRI Supervisory Safety Award.
FEBRUARY (Continued)

DN A. L. Carroll received a Letter of Commendation and citation for selection as a recipient of the NDRI Individual Safety Award.

Dr. E. A. Kearns was chosen as a finalist in the Chicago Section American Association for Dental Research Young Investigators competition.

HM2 H. E. Morton received a Letter of Commendation from the Commanding Officer for selection as NDRI Sailor of the Year.

DT2 L. A. Rouse received a Letter of Commendation and citation for selection as a recipient of the NDRI Individual Safety Award.

DT2 L. A. Rouse received a Letter of Commendation from the Commanding Officer upon her discharge from the Navy.

Dr. L. G. Simonson was selected as Chairman of the Poster Session for the International/American Association for Dental Research annual meeting.

CAPT R. G. Walter received a Letter of Commendation and citation for selection as a recipient of the NDRI Individual Safety Award.

MARCH

HM2 H. E. Morton received a Letter of Commendation from Commander, Naval Training Center, Great Lakes, Illinois for his selection as NDRI Sailor of the Year.

CDR J. W. Rodden was selected for promotion to Captain.

Dr. L. G. Simonson became a full member of Sigma Xi - Research Honor Society (Lake Forest College Chapter).

Dr. L. G. Simonson was elected President, Microbiology/Immunology Group of the International/American Association for Dental Research.

APRIL

DT3 J. A. Hall reported for duty from the USS Yosemite (AD-19).

DTCS M. G. Hastings was frocked to E-9.
APRIL (Continued)

Dr. E. A. Kearns was awarded 2nd place in the Young Investigators Competition in the Chicago Section of the American Association for Dental Research.

Dr. B. L. Lamberts was appointed to the Executive Committee of the Lake Forest College Chapter of Sigma Xi - Research Honor Society.

LCDR T. L. Mapes became an associate member of Sigma Xi - Research Honor Society (Lake Forest College Chapter).

DR S. B. Monroe reported for duty from the School of Dental Assisting and Technology, San Diego, California.

CDR J. W. Rodden became a Diplomate, American Board of Periodontology.

Dr. L. G. Simonson was installed as a member of Sigma Xi, the Research Society, Lake Forest College Chapter.

MAY

DT2 R. W. Gamble received a Navy Achievement Medal.

JUNE

DN J. A. Hall was promoted to E-4.

Dr. L. G. Simonson was selected for "Who's Who in Technology".

JULY

HM1 S. D. Encabo received a Letter of Commendation from the Commanding Officer for his selection as NDRI Sailor of the Quarter.

DT2 R. J. Evans reported for duty from Dental Administrative "C" School, San Diego, California.

DR S. B. Monroe was promoted to E-2.

DT3 S. B. Rhodes was discharged from the Navy.

AUGUST

HM3 S. T. Berry received a Good Conduct Award.

Ms. S. P. Stewart received a 10-Year Service Award.
AUGUST (Continued)

HM2 H. E. Morton completed degree requirements for a Bachelor of Science degree in Health Care Management from Southern Illinois University, Carbondale, Illinois.

SEPTEMBER

CDR M. C. Diehl received a Letter of Commendation from the Commanding Officer upon his transfer from NDRI for duty at the Naval Dental School, Bethesda, Maryland.

DTCM M. G. Hastings received a Letter of Commendation from the Commanding Officer upon his transfer from NDRI for duty at Headquarters, United States Marine Corps, Washington, DC.

Dr. B. L. Lamberts received a Letter of Commendation from the Commanding Officer upon his retirement for more than 37 years of superior federal service upon his retirement.

SKC G. A. Wright reported for duty from COMNAVSUPPFORANTARCTICA, Port Hueneme, California.

The following personnel received Performance Awards and/or Quality Step Increases for outstanding performance.

COHEN, M. E. PEDERSON, E. P.
KEARNS, E. A. PORTIS, M. J.
KLINE, S. L. STEWART, S. P.
LENKOSKI, D. K.
CAPT R. G. WALTER, HM2 H. E. MORTON AND DTCM M. G. HASTINGS
at a VIP luncheon honoring the 1987 Sailors of the Year
from Great Lakes commands.
**Title:** Summaries of Research - Fiscal Year 1988

**Performing Organization:** Naval Dental Research Institute
Building 1-H
Great Lakes, IL 60088-5259

**Controlling Office:** Naval Medical Research and Development Command, National Naval Medical Center
Bethesda, MD 20814-5044

**Report Date:** November 1989

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**Abstract:** Brief summaries of research carried out from 1 October 1987 to 30 September 1988, including presentations, publications and distinguished visitors.