

Journal of
Rehabilitation
Research and Development

SPRING 1988

For sale by:

Superintendent of Documents, U.S. Government Printing Office (GPO)
Washington, DC 20402.

Available in microfilm from University Microfilms International, Inc.

Indexed by:

- Engineering Index (Bioengineering Abstracts)
- Excerpta Medica
- Index Medicus
- The BLDOC System (French)
- Index to U.S. Government Periodicals (Infodata Int., Inc.)

Library of Congress Catalog Card No. 6.60273

ISSN 007-506X

The *Journal of Rehabilitation Research and Development* is a quarterly publication of the Rehabilitation Research and Development Service, Veterans Administration. The opinions of contributors are their own and are not necessarily those of the Veterans Administration. Address correspondence to: Editor, Journal of Rehabilitation Research and Development, Office of Technology Transfer, VA Prosthetics R&D Center, 103 South Gay Street, Baltimore, MD 21202.

Contents of the *Journal of Rehabilitation Research and Development* are within the public domain with the exception of material specifically noted.

Journal of Rehabilitation Research and Development

Volume 25, No. 2

The *Journal of Rehabilitation Research and Development* is a publication of the Rehabilitation Research and Development Service, Department of Medicine and Surgery, Veterans Administration.

Editorial Board

MARGARET J. GIANNINI, M.D.,
Chairperson
SELDON P. TODD, JR., *Editor*

JOSEPH E. BINARD, M.D., F.R.C.S.(C)
BRUCE B. BLASCH, PH.D.
PAUL W. BRAND, F.R.C.S.
ERNEST M. BURGESS, M.D.
DUDLEY S. CHILDRESS, PH.D.
FRANKLYN K. COOMBS
CARLO J. DE LUCA, PH.D.
JOAN EDELSTEIN, P.T.
LOIS ELLIOTT, PH.D.
HOWARD FREIBERGER
GUY S. HAMMER, B.S.E.E., P.E.
J. LAWRENCE KATZ, PH.D.
RICHARD LECLAIR
H.R. LEHNEIS, PH.D., C.P.O.
HARRY LEVITT, PH.D.
HEINZ I. LIPPMANN, M.D., F.A.C.P.
JOHN LYMAN, PH.D.
COLIN A. MCLAURIN, SC.D.
WESLEY S. MOORE, M.D.
EUGENE F. MURPHY, PH.D.
VERNON L. NICKEL, M.D.
PATRICK W. NYE, PH.D.
JACQUELIN PERRY, M.D.
CHARLES H. PRITHAM, C.P.P.
JAMES B. RESWICK, SC.D.
F. THOMAS SHIPP, PH.D.
SHELDON SIMON, M.D.
WILLIAM SPENCER, M.D.
GREGG C. VANDERHEIDEN, PH.D.
PETER S. WALKER, PH.D.
C. GERALD WARREN
A. BENNETT WILSON, JR.

Foreign Editors

SATOSHI UEDA, M.D.
Professor, Director
Central Rehabilitation Service
University of Tokyo Hospital
731 Hongo, Bunkyo
Tokyo, Japan

SEISHI SAWAMURA, M.D.
Director,
Hyogo Rehabilitation Center
1070, Akebono-Cho
(Tarumi-Ki)
Kobe, 673 Japan

HARRY SIN-YANG FANG, M.D.
C.B.E., M.CH. ORTH. F.R.C.S.E., F.R.C.P.E., F.R.A.C.S.,
L.L.D., J.P.
Tak Shing House
Room 306
Hong Kong

Consultants

JACQUELIN PERRY, M.D., *Medical Consultant*
MICHAEL J. ROSEN, PH.D., *Scientific Consultant*

Publication Staff

Seldon P. Todd, Jr., *Editor*
Tamara T. Sowell, *Associate Editor*
Holly M. Jellison, *Associate Editor, Managing Editor*
Ruth A. Waters, *Assistant Managing Editor*
Bobbi Levien, *Assistant Editor*
Barbara G. Sambol, *Program Assistant*
Beryl M. Benjers, *Technical Information Specialist*
John O. Bowman, *Chief, Technical Support*
Linda Majewski-Kazlo, *Chief, Data Entry Team*
M. Patricia Bush, *Data Entry Team, Circulation*

CONTENTS

A Guest Editorial

- Richard A. Sherman, Ph.D.* vii **Phantom Pain: A lesson in the necessity for careful clinical research on chronic pain problems**
Jeffrey L. Ernst, Ph.D.
Roberto H. Barja, M.D.
Glenda M. Bruno, R.N., M.S.

Scientific/Engineering Articles

- John J. Holewski, D.P.M.* 1 **Aesthesiometry: Quantification of cutaneous pressure sensation in diabetic peripheral neuropathy**
Richard M. Stess, D.P.M.
Peter M. Graf, D.P.M.
Carl Grunfeld, M.D., Ph.D.
- Frank L. Golbranson, M.D.* 11 **Volume changes occurring in postoperative below-knee residual limbs**
Roy W. Wirta, B.S.M.E.
Eric J. Kuncir, M.S.B.E.
Richard L. Lieber, Ph.D.
Calvin Oishi, B.A.
- Remy Lim, M.A.* 19 **Clinical trial of foam cushions in the prevention of decubitus ulcers in elderly patients**
Robena Sirett, B.Sc.
Tali A. Conine, D.H.Sc.
Dawn Daechsel, B.S.R., O.T.
- William E. Fisher, Ph.D.* 27 **Testing of gel-electrolyte batteries for wheelchairs**
Rob E. Garrett, B.Tech.
Barry R. Seeger, Ph.D.
- Rebecca E. Eilers, Ph.D.* 33 **Assessment techniques to evaluate tactual aids for hearing-impaired subjects**
Judith E. Widen, Ph.D.
D. Kimbrough Oller, Ph.D.
- Felice L. Loverso, Ph.D.* 47 **Cueing verbs: A treatment strategy for aphasic adults (CVT)**
Thomas E. Prescott, Ph.D.
Marilyn Selinger, Ph.D.

Contents continued

Departments

Joan E. Edelstein, P.T. **61** **Abstracts of Recent Literature**
Jerome D. Schein, Ph.D.

Alan Criner, Ph.D. **77** **Book Reviews**
Robert Patterson, Ph.D.
Jerome D. Schein, Ph.D.

Beryl M. Benjers, Ph.D. **80** **Publications of Interest**
125 **Calendar of Events**

Index (by Article Title)

141 **Index of the Journal of Rehabilitation Research and
Development 1981-1987** (by Subject)