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THERAPEUTIC EXERCISES for the TREATMENT of the NEUROLOGICALLY DISABLED

A Text for Corrective Therapists and Corrective Physical Educators

RITTEN FOR: College students, therapists and cor-ctive physical education teachers.

PRACTICAL and BASIC GUIDE fo: rehabilitation through exercise.

CHARLES C THOMAS • PUBLISHER
Springfield, Illinois

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BANNERSTONE HOUSE
301-327 East Lawrence Avenue, Springfield, Illinois, U.S.A.

Published simultaneously in the British Commonwealth of Nations by
BLACKWELL SCIENTIFIC PUBLICATIONS, LTD., OXFORD, ENGLAND

Published simultaneously in Canada by
THE RYERSON PRESS, TORONTO

Library of Congress Catalog Card Number 56-11479

Printed in the United States of America

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Preface

To help a patient survive a cerebral vascular accident through medication and then to allow him to remain a totally incapacitated, dependent individual, is no longer considered a successful treatment program. The patient has only accomplished the first phase of his road to recovery. It is with this philosophy that the medical team approach to the whole patient has developed into an important advancement in modern medicine.

In the treatment of the neurological patient, the medical doctor prescribes and calls upon many forms of therapy in order to obtain complete benefit for the patient. These therapies, Corrective Therapy, Occupational Therapy, Physical Therapy, Educational Therapy and Manual Arts Therapy, combined with the psychologist, vocational counselor and social worker, all under the leadership of the medical doctor, form a medical team. The purpose of this team is to help in the total rehabilitation of the patient.

The handbook is concerned with only one member of this team, the Corrective Therapist. It is with this in mind that we continue with the development of this specific phase of the treatment, not forgetting at any time that Corrective Therapy is only one member working for the overall rehabilitation of the patient.

Acknowledgments

The author acknowledges indebtedness to the following medical doctors, Bertram Taub, D. Alfred Dantes, Sidney A. Cohen, Emma M. Varnerin and James Pierce, for their editorial reading of the chapters on neurological diseases and the valuable suggestions which they made. Special gratitude is also extended to Philip Rasch, Ph.D., Research Specialist, for his assistance in preparation of the 1st chapter of this text.

H. J. B.

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Introduction: The Modern Development of Exercise for Medical Treatment

PHYSICAL REHABILITATION IN ENGLAND

Early in World War II, the medical profession in England found itself confronted with a patient-load which it was unable to handle unassisted. Not only those suffering physical injuries, but those whom bombings and other causes had upset psychically, were threatening to fill the hospitals far beyond their capacity. Many of these casualties represented valuable manpower lost from industries vital to the support of the armed forces. The ever increasing need for personnel to tend these unfortunates became an additional demand upon the productive labor supply. In desperation, England's physicians called upon her physical educators for assistance in getting these people out of hospital beds and back into industry.

UNITED STATES ARMY BEGINS REHABILITATION PROGRAM

So successful was the physical educators' response in England that it came to the attention of the American Army. On April 15, 1943, Colonel Frank Stinchfield, U.S.A., sponsored the first Corrective Physical Rehabilitation School at the 307th Station Hospital, Coventry, England. A new specialty had been created within the

field of physical education. It is true that Ling, Spiess, Jahn and others had stressed the value of exercise for abnormal conditions, but their corrective work was largely done upon students without pathological conditions.

In the United States, the Army program for Physical Reconditioning began in 1943-44, when schools for Physical Reconditioning Instructors were first held at Washington and Lee University, Virginia, for officers, and Camp Grant, Illinois, for enlisted men. The personnel were selected from the ranks of the physical educators, coaches and athletes. In the army schools, the academic program included such courses as anatomy, physiology, kinesiology, medical terminology, psychology, and so forth. The practical aspects of the training centered around the various phases of exercise and activities for the treatment of medical and surgical, psychiatric and convalescent types of patients. Men who completed the course satisfactorily were sent to Station, General Medical and Convalescent Hospitals throughout the United States and in some foreign theaters.

VETERANS ADMINISTRATION ADOPTS PROGRAM

So outstanding was the record of the Physical Reconditioning Instructors that, upon the cessation of hostilities, demobilized military instructors were replaced by civilians. On May 18, 1946, the Veterans Administration formally established the Medical Rehabilitation program, which included Corrective Physical Rehabilitation as an integral part of hospital medical treatment.[1] Today, physical educators specializing in rehabilitation of the physically handicapped or mentally ill are known in

[1]Veterans Administration Circular No. 121, May, 1946.

England as "Medical Gymnasts" and in the United States as "Corrective Therapists." There are now approximately five hundred Corrective Therapists in the service of the Veterans Administration, many of whom have completed specialized training schools. Outstanding among these has been a series of six weeks courses in the psychiatric aspects of Corrective Therapy offered at the Winter Veterans Administration Hospital, Topeka, Kansas, under the guidance of Dr. Karl A. Menninger.[2] Courses have been given elsewhere in the country in the Rehabilitation of Neurological Patients, General Medical and Surgical Cases, and so forth. That the value of the work of Corrective Therapy is now generally recognized by the medical profession is reflected in their ever-increasing employment in state hospitals, private hospitals and rehabilitation centers.

CORRECTIVE THERAPY TODAY

Corrective Therapy embraces two distinct but united phases of treatment—the psychological and the physiological. Which one is emphasized in any given case will depend upon whether the patient is a neuropsychiatric or general medical and surgical case. In either event, there is a great overlapping of treatment approach and the fundamental goal—the rehabilitation of the patient within the boundaries of his limitations—is identical.

The principal tool of the Corrective Therapist is therapeutic activity. This activity may be administered in either the form of individual or group exercise, adapted sports, games or recreation. In either case, the activity

[2]Harlan C. Wood: New Horizons in Physical Rehabilitation. *Journal of the American Association for Health, Physical Education and Recreation*, *21*:335, *et seq.*, June, 1950.

is used as a means towards an end—the end being the physical and mental rehabilitation of the patient. In the philosophy of Corrective Therapy, it is understood that the desire for rehabilitation must come from within the individual being rehabilitated. It is therefore the therapist's duty to stimulate the patient first to become desirous of rehabilitating himself and then to guide and supervise him through the stages of progression leading to this goal. The Corrective Therapist works *with* the patient rather than *on* the patient. A coach-player type of relationship is sought, with the therapist directing his efforts towards making the patient a self-sustaining, independent individual.

Corrective Therapists are organized into a national professional society known as the Association for Physical and Mental Rehabilitation. The national association sets up the standards and qualifications for certification of Corrective Therapists for the official American Registry. A bi-monthly Journal is published to circulate all the latest technical information, studies and research to the professional membership, doctors, hospitals and associate members throughout the country.

II

Therapeutic Exercise

Therapeutic exercise is the sole modality used by the Corrective Therapist in the treatment or rehabilitation of neurological patients. The following section is devoted to a description of the various phases of the exercise program and the desired objectives in each area.

PASSIVE OR PASSIVE-ASSISTIVE EXERCISES

These two forms of exercises consist of movements in which the therapist or a mechanical device assumes the aggresive position with the patient playing a passive or partially passive role. The Corrective Therapist uses this form of exercise primarily for the prevention of contractures by helping a paralyzed or partially paralyzed limb through the full range of motion as described in Figures 1 and 2. This may be accomplished, in the case of a paralyzed leg, by an electric driven bicycle with adjustable pedals for varying the range of movement. It may be necessary to conduct this type of exercise with the patient until there is sufficient neuro-muscular recovery for the patient to assume the leading role.

In the passive-assistive type of exercise, the patient tries to work his limbs with the aid of the therapist, even though there may be very little muscle reaction present. This latter form of exercise is used as a continued form of