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A manual for clinical training in corrective therapy

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Thesis

A MANUAL FOR CLINICAL TRAINING IN
CORRECTIVE THERAPY

Submitted by

Panos A. Pitsas
(B.S., Boston University, 1960)

In Partial Fulfillment of Requirements for
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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>PREFACE</td>
<td>vii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>ix</td>
</tr>
<tr>
<td>LIST OF ILLUSTRATIONS</td>
<td>x</td>
</tr>
<tr>
<td>Chapter I. INTRODUCTION</td>
<td></td>
</tr>
<tr>
<td>I. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Method of Collecting Data</td>
<td>2</td>
</tr>
<tr>
<td>Background Information</td>
<td>3</td>
</tr>
<tr>
<td>Physical Medicine and Rehabilitation Service</td>
<td>3</td>
</tr>
<tr>
<td>Organizational Chart</td>
<td>5</td>
</tr>
<tr>
<td>Function</td>
<td>6</td>
</tr>
<tr>
<td>Chronic Long Term Geriatric Rehabilitation</td>
<td>7</td>
</tr>
<tr>
<td>Corrective Therapy</td>
<td>9</td>
</tr>
<tr>
<td>Definition</td>
<td>9</td>
</tr>
<tr>
<td>Duties of Corrective Therapist</td>
<td>10</td>
</tr>
<tr>
<td>Philosophy of Treatment</td>
<td>11</td>
</tr>
<tr>
<td>General Types of Treatment</td>
<td>13</td>
</tr>
<tr>
<td>Activities</td>
<td></td>
</tr>
<tr>
<td>II. AIM AND OBJECTIVES OF THE CORRECTIVE THERAPY PROGRAM</td>
<td>15</td>
</tr>
<tr>
<td>Aim</td>
<td>15</td>
</tr>
<tr>
<td>Objectives</td>
<td>15</td>
</tr>
<tr>
<td>III. SCOPE OF CORRECTIVE THERAPY</td>
<td>18</td>
</tr>
<tr>
<td>Prevention</td>
<td>18</td>
</tr>
<tr>
<td>Diagnosis, Prognosis, and Treatment</td>
<td>20</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>22</td>
</tr>
<tr>
<td>Chapter</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>IV. TECHNIQUES AND PROCEDURES IN CORRECTIVE THERAPY</td>
<td>23</td>
</tr>
<tr>
<td>General Responsibilities of the Corrective Therapist</td>
<td>23</td>
</tr>
<tr>
<td>Adapted Therapeutic Physical Activities</td>
<td>23</td>
</tr>
<tr>
<td>General Medical and Surgical Patient</td>
<td>26</td>
</tr>
<tr>
<td>Psychiatric Patient</td>
<td>27</td>
</tr>
<tr>
<td>Neurological Patient</td>
<td>32</td>
</tr>
<tr>
<td>V. GENERAL INFORMATION FOR STUDENT TRAINEE IN CORRECTIVE THERAPY</td>
<td>33</td>
</tr>
<tr>
<td>Qualifications of Candidate</td>
<td>33</td>
</tr>
<tr>
<td>Professional Conduct of Students</td>
<td>33</td>
</tr>
<tr>
<td>Professional Appearance</td>
<td>33</td>
</tr>
<tr>
<td>Professional Ethics</td>
<td>34</td>
</tr>
<tr>
<td>Standards of Training</td>
<td>36</td>
</tr>
<tr>
<td>Undergraduate Requisites</td>
<td>36</td>
</tr>
<tr>
<td>Graduate Requisites</td>
<td>37</td>
</tr>
<tr>
<td>Length of Clinical Training</td>
<td>39</td>
</tr>
<tr>
<td>Certification of Corrective Therapists</td>
<td>39</td>
</tr>
<tr>
<td>Salaries</td>
<td>40</td>
</tr>
<tr>
<td>Scholarship Aid</td>
<td>40</td>
</tr>
<tr>
<td>Association for Physical and Mental Rehabilitation</td>
<td>41</td>
</tr>
<tr>
<td>History</td>
<td>41</td>
</tr>
<tr>
<td>Objectives</td>
<td>42</td>
</tr>
<tr>
<td>Membership</td>
<td>43</td>
</tr>
<tr>
<td>VI. SUMMARY</td>
<td>45</td>
</tr>
<tr>
<td>APPENDIXES</td>
<td>Page</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>APPENDIX A: General Medical and Surgical Glossary</td>
<td>50</td>
</tr>
<tr>
<td>APPENDIX B: Neuropsychiatric Glossary</td>
<td>60</td>
</tr>
<tr>
<td>APPENDIX C: General Medical and Surgical Progress Report</td>
<td>72</td>
</tr>
<tr>
<td>APPENDIX D: Neuropsychiatric Progress Report</td>
<td>78</td>
</tr>
<tr>
<td>APPENDIX E: A Program of Mat Exercises for the Paraplegic Patients</td>
<td>80</td>
</tr>
<tr>
<td>APPENDIX F: Physical Fitness Test</td>
<td>91</td>
</tr>
<tr>
<td>APPENDIX G: Self-Aid Devices and an Evaluation of the Hands of Quadriplegics</td>
<td>97</td>
</tr>
<tr>
<td>APPENDIX H: Suggestions for Successful Student Program Operation</td>
<td>107</td>
</tr>
<tr>
<td>APPENDIX I: Corrective Therapist's Evaluation of the Student Trainee</td>
<td>110</td>
</tr>
<tr>
<td>APPENDIX J: Student Trainee Evaluation of the Corrective Therapy Training Program</td>
<td>112</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BIBLIOGRAPHY</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books</td>
<td>115</td>
</tr>
<tr>
<td>Journals, Periodicals, and Bulletins</td>
<td>116</td>
</tr>
</tbody>
</table>
"God grant us the Serenity to accept the things we cannot change, courage to change the things we can, and wisdom to know the difference."
PREFACE

This manual is designed to serve as a guide for clinical training in Corrective Therapy for the student trainee and for any other personnel interested in the field of medical rehabilitation.

It is based on the current corrective therapy programs which are being conducted by the Veterans Administration Hospitals in the Greater Boston area, and will implement their current philosophy and standards of treatment practices in the field of Corrective Therapy and in medically oriented Physical Education.

In the main, the manual is addressed to the prospective corrective therapists. The first part of chapter I, and chapter V in its entirety, are addressed to the supervisor of the clinical training program in Corrective Therapy at the affiliating college or university.

This manual covers information, techniques and procedures for patients of Neuropsychiatric Hospitals and General Medical and Surgical Hospitals. No specific suggestions are given here for the corrective therapists who work with patients in Tuberculosis Hospitals. However, many of the methods may be applicable.

-vii-
The writer of this manual is greatly indebted to the Corrective Therapy personnel of West Roxbury Veterans Administration Hospital and Brockton Veterans Administration Hospital, for their generous help and cooperation in making this manual possible.

Sincere thanks are also extended to Mr. James Kacavas, Corrective Therapy clinical training Supervisor of Bedford Veterans Administration Hospital, and Mr. Joseph S. Colello, Recreation Director of Brockton Veterans Administration Hospital, who furnished valuable suggestions and information.

Most deeply and directly, the writer wishes to thank his wife Merope, for her professional secretarial services, and for her untiring efforts and aid in solving many problems.

Finally, the writer wishes to express his appreciation to Dr. Arthur G. Miller, Boston University, School of Education, for his invaluable guidance, advice and assistance in the formulation of this manual.
<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Physical Medicine and Rehabilitation Service Organizational Chart</td>
<td>5</td>
</tr>
<tr>
<td>2.</td>
<td>Therapy Order Sheet</td>
<td>75</td>
</tr>
<tr>
<td>3.</td>
<td>PM&amp;RS Temporary Prescription</td>
<td>76</td>
</tr>
<tr>
<td>4.</td>
<td>Physical Medicine Rehabilitation Progress Report</td>
<td>77</td>
</tr>
<tr>
<td>5.</td>
<td>Corrective Therapist's Evaluation of the Student Trainee</td>
<td>113</td>
</tr>
<tr>
<td>6.</td>
<td>Student Trainee Evaluation of the Corrective Therapy Training Program</td>
<td>115</td>
</tr>
</tbody>
</table>
# LIST OF ILLUSTRATIONS

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Self-Aid Devices</td>
<td>99</td>
</tr>
<tr>
<td>2.</td>
<td>The Four Basic Device Principles</td>
<td>100</td>
</tr>
<tr>
<td>3.</td>
<td>The Most Adaptive Hand</td>
<td>101</td>
</tr>
<tr>
<td>4.</td>
<td>The Claw Fingered Hand</td>
<td>102</td>
</tr>
<tr>
<td>5.</td>
<td>The Flail Wrist Hand</td>
<td>103</td>
</tr>
<tr>
<td>6.</td>
<td>The Straight Fingers Hand</td>
<td>104</td>
</tr>
<tr>
<td>7.</td>
<td>The Neutral Position</td>
<td>105</td>
</tr>
</tbody>
</table>
CHAPTER I
INTRODUCTION

The main purpose of this manual is to outline general information, techniques and resources for the prospective Corrective Therapist.

The Association for Mental and Physical Rehabilitation defines Corrective Therapy as: "the application of the principles, tools, techniques and psychology of mentally oriented physical education to assist the physician in the accomplishment of prescribed objectives." ¹/

Corrective Therapy is concerned with the treatment of all types of disabling conditions in the general medical, surgical, neurological, psychiatric and tubercular categories. The therapy is utilized in all three phases of medicine.

To the prevention phase of medicine, Corrective Therapy contributes through its exercise programs, modified to the patient's individual needs which prevent permanent impairment whenever possible and reverse the process

¹/Association for Mental and Physical Rehabilitation, Incorporated, 1959-60.
through scientifically planned functional programs.

Data of value in connection with the phase of diagnosis and prognosis regarding a patient's condition are furnished to the physician as a result of tests and measurements of the patient's ability to perform certain types of activities inherent in his rehabilitation objectives.

The treatment is individualized according to medically prescribed procedures.

The third phase of medicine deals with rehabilitation. Corrective Therapy is concerned not only with the physical effect of treatment but also with the important areas of motivation, psychological, social and economic adjustment of the patient to disease and disability during the period of medical care. The contribution of Corrective Therapy, therefore, blends into the total rehabilitation picture by helping each individual achieve the maximum adjustment, independence and usefulness within the limitations of his impairment.

Method of Collecting Data.-- The information used was collected through reports and papers written by the corrective therapists of the Veterans Administration
Hospitals in the Greater Boston area, a review of the available literature, and practical experience.

**Background Information.**—Corrective Therapy was formally organized as a specialty in 1946. The new discipline grew out of the enormous expansion of the fields of Corrective Physical Rehabilitation in the Veterans Administration and the reconditioning units of the United States Armed Forces.

A dynamic concept of rehabilitation as conceived by the Physical Medicine and Rehabilitation Service of the Veterans Administration needed specialization to cope with the potentials of rehabilitation made possible by new and improved medical and surgical techniques and the time-saving advantages of modern transportation. Corrective Therapy and other therapies* have made an important contribution to the establishment of the significant record of the Veterans Administration in the field of rehabilitation.

**Physical Medicine and Rehabilitation Service.**—It provides service in the diagnosis, treatment, and

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* See Organizational Chart of Physical Medicine and Rehabilitation Service.
rehabilitation* of patients assigned to the service in the following therapies as determined by the requirements of the hospital. Physical Therapy, Occupational Therapy, Manual Arts Therapy, Corrective Therapy, Educational Therapy, and Therapeutic Recreation Services.

* See Chapter III.
Physical Medicine and Rehabilitation Service Organizational Chart.

CHIEF
PM&RS*

ASSISTANT CHIEF
PM&RS*

REHABILITATION
COORDINATOR

CHIEF
CORRECTIVE
THERAPY**

CHIEF
EDUCATIONAL
THERAPY

CHIEF
OCCUPATIONAL
THERAPY

CHIEF
MANUAL ARTS
THERAPY

CHIEF
PHYSICAL
THERAPY

DIRECTOR
RECREATION
THERAPY

SUPERVISORS
SUPERVISORS
SUPERVISORS
SUPERVISORS
SUPERVISORS
SUPERVISORS

THERAPISTS***
THERAPISTS***
THERAPISTS***
THERAPISTS***
THERAPISTS***
THERAPISTS***

* Physical Medicine and Rehabilitation Service.
** Not recognized by the American Medical Association.
*** The number of therapists depends upon the size, available facilities, and function of the hospital.
The function of Physical Medicine and Rehabilitation Service is three-fold:

1. It contributes to the more prompt recovery and shorter hospital stay of the patients with acute medical or surgical conditions through diagnosis and specialized therapy.

2. It assists the long-term or handicapped patients in adjusting to the demands of an appropriate post-hospital economic and social environment in order to reduce the possibility of readmission.

3. It helps the patient whose discharge is improbable to achieve a measure of independence within the hospital which will reflect savings in the cost of his hospitalization.

Specifically, Physical Medicine and Rehabilitation Therapy is designed to restore function to the maximum level of which the patient is capable; to evaluate the degree of impairment and the extend of residual capacity for social and economic activities and to furnish practical and effective motivation for rehabilitation. Physical Medicine and Rehabilitation, then, is utilized for
preventive, diagnostic, therapeutic and rehabilitation purposes.*

Chronic - Long Term Geriatric Rehabilitation.-- The term "rehabilitation" in the medical program has a broader connotation than it did immediately after World War II. With the increasing number of long-term, chronic or geriatric patients in hospitals we are faced with the urgency of developing methods of affording appropriate treatment to the greatest possible number of veteran patients in this category. Attempting to achieve the objectives of returning this type of patient to his home as a useful member of the community may be fraught with many complex problems, indeed, some of them perhaps insurmountable. Nevertheless, our responsibility for his rehabilitation does not cease; rather we must face a more difficult yet highly essential task of rehabilitation within the existing limitations. For many of these individuals rehabilitation means bringing to them the opportunity to

* See Chapter III.

to live at the maximum mental and physical level attainable within the hospital community. Because of the very nature of its component therapies,* this service is in the most strategic position to provide a program of maintenance therapy to prevent the rapid deterioration of patients and members whose age or medical condition pose problems of self-maintenance. Maintenance Therapy is a program of minimal activity designed to maintain at the maximum feasible level, the physical and mental condition of patients or members who have arrived at a stage where greatest benefit has been received from normal intensive medical treatment and there is poor prognosis for improvement.

The Objectives of the Program are to:

1. Continue self-care ability as long as possible.
2. Delay the necessity for maximum nursing care.
3. Improve the morale of geriatric and chronic, long-term patients and members.
4. Fill a need for sustaining therapy by the development of specialized larger group techniques.

* See Physical Medicine and Rehabilitation Service Organizational Chart.
5. Screen geriatric, chronic, long-term patients and members to determine those with the will and capacity to improve under more intensive and more individualized therapy.

Corrective Therapy.--

"Corrective Therapy is the application of the principles, tools, techniques and psychology of mentally oriented physical education to assist the physician in the accomplishment of prescribed objectives."

Corrective Therapy is a member section of the Physical Medicine and Rehabilitation Service,* and as such administers treatments under the prescription and supervision of the Chief Physical Medicine and Rehabilitation, who is a Physiatrist or Doctor of Physical Medicine. The treatments administered are basically therapeutic exercises or physical activity aimed toward maximal physical, mental, social and vocational adjustment of the patient to the environment in which he will live - help to make him a more active, contributing member of his social group.

1/Association for Mental and Physical Rehabilitation, Incorporated, 1959-60.

* See Physical Medicine and Rehabilitation Service Organizational Chart.
Corrective Therapy utilizes all therapeutic physical activities including specific and general remedial exercises, ambulation and elevation techniques, neuromuscular coordination activities, rhythmic activities, therapeutic aquatics, respiratory efficiency exercises, physical conditioning and reconditioning. It also teaches functional utilization and care of prostheses, driver training utilizing adapted vehicles, self-care and functional activities. It teaches special activities for the blind including foot travel, health maintenance and physical skills. Administers postural exercises and teaches proper body mechanics. Accomplishes therapeutic objectives in the treatment of psychiatric patients through the use of prescribed physical activities. Adapts physical activity and sports to provide recreation for handicapped and atypical routines. Utilizes all physical education equipment and exercises' apparatus and develops adapted equipment for specific needs. Maintains clinical records and participates in clinical evaluation, rehabilitation board, medical, administrative and staff meetings.
Corrective Therapy is a medically recognized and approved treatment service, contributing to the overall rehabilitation effort of the physically sick and handicapped through application for therapeutic purposes of medically prescribed activity of an exercise nature. * It is concerned with the prevention of deformity, treatment of physical and mental disability resulting from disease or injury, physical maintenance, and functional rehabilitation. Activities are designed to aid the patient to mobilize his resources to help himself. The philosophy of Corrective Therapy stresses working with as well as on the patient through provision for cooperative relationships in which the therapist teaches and directs while the patient himself accomplishes the desired objectives. It is a physical and psychological process. Both group and individual relationships are organized so as to utilize available social resources in providing the most effective therapeutic setting for Corrective Therapy.

* See Chapter IV.
Corrective Therapy as a discipline is concerned, primarily and basically, with the scientific development of physical exercise and activity skills in modern treatment and rehabilitation; scientific in the sense that the procedures are consonant with the continued refinements of medical practice and specifically of psychiatric practice, and the growing understanding of the psychodynamics of activity.

Areas of application include rehabilitation clinics and hospitals; public and private schools; colleges and universities; special schools and camps for handicapped and atypical children; nursing homes; recreational programs for the handicapped and research. Have been designated according to area of application as: *

Exercise Therapist
Remedial or Medical Gymnast
Corrective Physical Education
Physical Rehabilitation Instructor
Recreational Therapist

* See Glossaries for the definitions of following terms.
General Types of Treatment Activities.-- The general types of treatment activities provided through Corrective Therapy are:

1. Conditioning exercises to develop strength, endurance, neuromuscular coordination and agility; reconditioning exercises to prevent both physical and psychological deconditioning.

2. Exercises and resocialization activities for psychiatric patients, specifically oriented toward the accomplishment of psychiatric objectives. These programs are carefully geared to the patient's level and ability to function and provide for the channelization of socially unacceptable behavior into acceptable expression of behavior. They provide for proper progression of physical and social complexities as the patient is able or willing to accept progress.

3. Teaching self-care activities, including personal hygiene.

4. Teaching of functional ambulation and elevation techniques - including the use of all types of prosthetic devices.
5. Therapeutic swimming (hydrogymnastics) programs.
6. Corrective and postural exercises prescribed and administered for specific conditions.
7. Conditioning, reconditioning, self-care and motivational activities, for the aged and infirmed patient.
8. Specific activities for the reorientation of the blind.
9. Training in the operation of manually controlled motor vehicles where applicable.
10. Adapted physical education and recreation programs for atypical children's groups in schools, camps and hospitals.
11. Adaptation for work.
CHAPTER II

AIM AND OBJECTIVES OF THE CORRECTIVE THERAPY PROGRAM

The Aim.-- The aim of the corrective therapy program should be one that provides hospital or clinical experience for the trainee by means of laboratory offerings, supervised clinical practice, additional lectures, and attendance at professional meetings and tours, which will supplement the prior or concurrent didactic instruction which the college or university offers, and contribute to a progressive understanding of the principles and methods of the Corrective Therapy profession.

The Objectives.-- The orientation affiliation program in Corrective Therapy for physical education students should have the following objectives:

1. To introduce physical education students, to the field of Medical Rehabilitation, especially Corrective Therapy. The majority of physical education students are future teachers. They should know enough about rehabilitation to be able to guide those in need of rehabilitation services to the proper channels.
2. To demonstrate the place of medically oriented physical education in a medical rehabilitation service, with particular emphasis in regards to Corrective Therapy.

3. To acquaint the students with various common disabilities and handicaps.

4. To allow the students to observe how various handicaps can be overcome, minimized or alleviated through remedial and corrective exercises.

5. To show the application of kinesiological principles, and various types of exercises. Corrective Therapy is a profession, based upon proven scientific principles. The students are shown the "tools of the trade," through which the therapists work, and the need for further growth and development with corrective therapy treatment.

6. To acquaint the students with opportunities for employment in the field of Corrective Therapy.

7. To urge those students who show an interest and aptitude for working with the disabled to continue their education on a graduate level under a full
clinical training affiliation, and to enter the profession as fully trained students of Corrective Therapy.

An affiliation program based upon the above aim and objectives has been established between the Department of Physical Education, School of Education, Boston University, Boston, Massachusetts, and the neighboring Veterans Administration hospitals which contain Corrective Therapy sections.
CHAPTER III

SCOPE OF CORRECTIVE THERAPY

Prevention.-- Corrective Therapy performs an important function in Physical Medicine and Rehabilitation treatment by contributing to the prevention of physical and mental deterioration which might result from prolonged bed rest as well as from generalized or partial bodily inactivity in consequence of a chronic or other condition. The prevention of the deconditioning of the physiological and anatomical body systems and its effect on the psychological adjustments of the patient are of particular importance from the standpoint of possible increased maintenance care or interference in accomplishing the rehabilitation objective. This is accomplished through a process of education through the physical as well as of the physical. Instruction and treatment are given as follows:

1. Postural and ambulation exercises for improving body mechanics in ambulation, standing, sitting, and lying.

2. Relaxation procedures, both active and passive, as a conditioning medium for physiological and psychological adjustment, either through specific progressive relaxation techniques and/or through gross physical activity.

3. The prevention of postoperative deformity or disability from the loss of muscle tone or joint range of motion.

4. Progressively graded exercises and activities to offset the functional, metabolic, and psychological deleterious effects of prolonged inactivity, such as accompanies lengthy periods of bed rest and/or hospitalization.

5. Natural activities utilized in daily living and modified to meet the patient's needs and to contribute to the prevention of further handicap resulting from the effect of the disability.

6. Rhythmic activities appropriate to Corrective Therapy which are inherent in the treatment and medical rehabilitation objective of disabled patients to promote physical and mental coordination and increased dexterity, and to prevent or alleviate further deterioration or limitation of movement which might otherwise ensue.
Diagnosis, Prognosis, and Treatment.

Diagnosis and Prognosis.-- Data of value in connection with diagnosis and prognosis respecting patient's condition are furnished to the physician as a result of tests and measurements of the patient's ability to perform certain types of activity inherent in his rehabilitation objective. Observational data of the action and interaction of the psychiatric patient in planned activity situations provide information of significance to the physician for the purposes of diagnosis. The self-care activities tests and measurements of the activity of daily living involve not merely acceptable performance essential for existence in appropriate rehabilitation environment but also the performance factor from the standpoint of time for each, the ability to perform several activities in necessary sequence, his reaction to the presence of others, and his reaction to new learning and frustrating experiences.

The corrective therapist:

1. Analyzes activities essential to the patient's proposed rehabilitation goal.

1/Ibid.
2. Selects those which are appropriate.

3. Adapts available equipment to meet situations simulating those which will be encountered by the patient in his daily living.

4. Measures and develops the patient's skills and abilities to perform the required activities in the environment of the rehabilitation objective.

5. Assists the patient in the development of therapeutically desirable habits, attitudes, knowledge, and skills, for wholesome adjustment to disease and/or disability compatible with the limitations imposed by the patient's disability.

For maximum effectiveness, the data assembled as a result of the Corrective Therapy diagnostic techniques, tests, and measurements must be integrated with those furnished by other therapies and disciplines to achieve the optimal contribution to the medical rehabilitation of the patient and his return to a social and occupational environment commensurate with the medical prognosis and vocational objective.
Treatment.-- Treatment is individualized according to medically prescribed procedures and techniques.

Rehabilitation.-- Corrective Therapy is concerned not only with the physical effect of treatment but also with the important areas of motivation, psychological, social, and economic adjustment of the patient to disease and disability during the period of medical care.

Rehabilitation deals with human values and its concept is not limited to an individual treatment. The treatment in Corrective Therapy is coordinated in the patient's total treatment program and the results are integrated with the work of all other therapies and disciplines. The contribution of Corrective Therapy, therefore, blends into the total rehabilitation picture by helping each individual achieve the maximum adjustment, independence and usefulness within the limitations of his impairment.

1/Ibid.
CHAPTER IV

TECHNIQUES AND PROCEDURES

1/

General Responsibilities of the Corrective Therapist.--
The Corrective Therapist will be responsible for the application of the following Corrective Therapy measures as they apply to the general medical and surgical, psychiatric, and tuberculous patients as prescribed by the Chief or Acting Chief, Physical Medicine and Rehabilitation Service, upon referral of the patient for consultation and subsequent treatment in the Physical Medicine and Rehabilitation Service by the Chief of Service or ward physician on duty; namely, Chief of TB Service or ward physician on TB ward; Chief of NP Service or ward physician on an NP ward, etc.

Adapted Therapeutic Physical Activities.--

1. Specific and general remedial exercises (passive and active), including the three categories of voluntary movements:

1/ Ibid.

2/ Ibid.
a. Assistive movements which involve suspension, supportive, and active assistive techniques, including active self-assistive exercises.

b. Resistive movements, with resistance being given manually or by mechanical devices, equipment, or apparatus, such as weight-and-pulley circuits, DeLorme Progressive Resistance Table, shoulder wheels, wrist rolls, stationary bicycles, pronator-supinator devices, rowing machines, etc.

c. Free movements, involving active exercises in all of its ramifications, with or without adapted or assistive equipment and apparatus. These movements include concentric, eccentric, and static exercises, as well as the complete range of the natural activities of physical education—crawling, walking, running, climbing, throwing, hanging, jumping, leaping, and carrying—utilized either as elements or as integrated skills essential for daily living.

* See Glossaries for the definitions of terms.
2. Ambulation and elevation techniques, involving gait training with or without the use of braces, canes, crutches, and prostheses, and utilizing assistive and adapted apparatus and equipment, such as mirrors, walkers, walking bars, stall bars, and parallel bars.*

3. Neuromuscular coordination activities, involving orientation in space, eye-foot, eye-hand, arm-leg patterns, including reciprocal motion in balancing and walking; postural correction in walking, standing, sitting, and lying; substitution activities; progressive relaxation techniques.*

4. Formal and free exercises, involving the use of rhythm.

5. Therapeutic hydrogymnastics.*

6. Respiratory efficiency exercises.*

7. Care and functional utilization of leg prostheses.*

8. Self-care activities.

* See Glossaries for the definitions of terms.
9. Motivational exercise experiences of a purposeful, meaningful, and interesting nature, specifically oriented toward the accomplishment of psychiatric objectives. *

10. Instruction in the use of manually controlled motor vehicles for the severely disabled. *

11. Special activities for the blind, involving foot travel, health maintenance, reconditioning, motivation, and adapted skills. *

12. Physical conditioning and physical adaptation for work demands, involving development of organic efficiency (endurance and skills). *

13. Tests and measurements for the determination of strength, endurance, coordination, self-care ability, and range of movement of patients. Also observational data, to evaluate the patient's level of and capacity for purposive behaviour readjustments. *

General Medical and Surgical Patient. -- Specific and general exercises for therapeutic purposes and tests and measurements will have their broadest application in the treatment of this type of patient, although all

* See Glossaries for the definitions of terms.

1/ Ibid.
Corrective Therapy measures listed in subparagraph above will be administered as they apply and as prescribed.

Psychiatric Patients.-- Corrective Therapy for the nonpsychotic patient provides diversified physical activities that are purposeful, meaningful, and interesting, oriented toward meeting his physical, emotional, mental, and social needs; and are directed towards the successful integration of the patient into the highest competitive segment of society compatible with his limitations.

For the psychotic patient, Corrective Therapy is designed to channel socially unacceptable behavior into socially acceptable expression through selected experiences of a purposeful, meaningful, and interesting nature, specifically oriented toward the accomplishment of psychiatric objectives.

The activities of Corrective Therapy are utilized by the therapist to place the patient into group situations of a motivational nature in order to improve his ability to get along with others and to encourage socialization.

\[1/\text{Ibid.}\]
These activities are all medically prescribed.

1. Conditioning exercises to maintain general health, to develop better physiologic condition, and to increase strength and endurance.

2. Corrective exercises prescribed and administered for specific conditions.

3. Postural exercises for faulty body mechanics.

4. Specialized exercises for activities under close medical supervision as physical and psychological follow-up after electric-shock therapy, insulin-shock therapy, prefrontal lobotomies, and other therapies.

5. Exercises for activities designed to motivate and stimulate the patient into participation and to reactivate him through early preformed play patterns. These modalities may include adaptations of informal activities modified by a corrective therapist to meet therapeutically the patient's activity level and ability to comprehend.

6. Corrective Therapy activities of nonconcentrative type.

7. Therapeutic hydrogymnastics to meet the patient's needs as prescribed and predicted by the physician.
8. Exercises and activities adapted to meet the therapeutic needs of patients with various types of conditions, including extraverting activities for the withdrawn patient, sedative-type activities for the hyperactive, and exercise to improve the motor coordination in certain organic disabilities.

Examples of some activities that are used and their objectives:

Reconditioning Exercises.-- For conditioning, stimulation, and resocialization.
Calisthenics--individual and group, with or without equipment. Opportunities for leadership can also be used.
Low organized activities--these include medicine ball passing, circle passing, and small group games like shuffleboard and horseshoes.
Other activities--for resocialization such as: golf, bowling, and table tennis.

Individual Exercise Activities.-- For developing coordination, self-confidence, and release of aggressiveness.
Punching bag--(light and heavy) is best for release of aggressiveness; more individualized.
Special exercise equipment-- wall pulleys, rowing machine, and bicycle trainer.

Swimming-- is used to stimulate the regressed patients or for sedation of hyperactive patients. Varying the temperature of the pool.

**Sport Skill Activities**-- These yield resocialization, especially in ability to cooperate with others in a group effort (team work) as well as ability to accept competition. Also individual skill development gives self confidence.

Some activities are:
- Softball-- for group competition.
- Basketball-- for individual skill and group competition.
- Volleyball-- for stimulation, competition, and to encourage group action.

**Basic Motor Activities**-- These are used with the more regressed patients. Usually followed by low organized activity.

- Ball holding--to awaken interest, and stimulate the catatonic and negativistic patients.
- Ball release--with the regressed and negativistic patients.
- Ball passing--to awaken interest, get the "feel" of activity. Done in progressing distances.
9. The major aim of Corrective Therapy for the psychiatric patient with tuberculosis is to alleviate the emotionally disturbed state of the patient so that the treatment of his tuberculosis will be facilitated. For the treatment of the tuberculous neuropsychiatric patient, activities are governed by the psychotherapeutic principles applicable to the psychiatric patient, with due consideration for the limitations imposed by his physical tolerance. Activities include:

a. Progressive relaxation as psychological and physical conditioning to aid the patient to accept bed rest.

b. Special Corrective Therapy activities for the hyperactive tuberculous neuropsychiatric patient to channel excessive energy into more constructive and controllable outlets and aid the patient to cooperate in treatment.

c. Teaching simple Corrective Therapy play skills in conformity to physical tolerance level for the purposes of resocialization of the tuberculous neuropsychiatric patient.

d. Teaching self-care, including personnel hygiene.
Neurological Patients. The general overall activities include:

1. Conditioning exercises for development of function and physical maintenance activities.
2. Neuromuscular coordination and balance activities.
3. Reorientation in space and reciprocal motion pattern teaching.
5. Integration of self-care accomplishments with daily ward and/or home routine.
6. Application of adapted and assistive devices.
7. Progressive ambulation: supportive and nonsupportive.

Ibid.
CHAPTER V

GENERAL INFORMATION FOR STUDENT TRAINEE IN CORRECTIVE THERAPY

Qualifications of Candidate.-- Candidates for selection by the Veterans Administration as trainee students in Corrective Therapy are subject to the following requirements:

1. Must be a citizen of the United States.
2. Must be a student at an approved school or department of Physical Education and must be a candidate for a degree, certificate or diploma.
3. Must have reached the eighteenth birthday at the time of beginning affiliation.
4. Must be in good physical health.

Professional Conduct of Students.-- The qualities of behavior and appearance are vital to effective work that preserve discipline, eliminate friction in human relationships and secure the stimulation of good will and approval from associates.

Professional Appearance.-- Appearance is of utmost importance to succeed in the field of Corrective Therapy.
The profession is one that requires:

1. Neatness.
2. Trimness in attire.
4. The uniform should be regarded as a "robe of office" and should be worn properly and proudly.
   a. The uniform should be one that is approved by the school.
   b. The shoes and stockings should conform to the uniform and should be clean at all times.
   c. Shoestrings should be clean at all times.

Professional Ethics.-- The student should be loyal to the institute and its staff. When an appointment is accepted, you assume an obligation to be loyal to the organization. Promote understanding and good will for the institute, your profession and the section in which you work. Help develop good ESPRIT DE CORPS. You should maintain and encourage the patient's confidence in the physician and other personnel. Strive to create understanding and desirable attitudes toward your profession that will develop respect and counteract false criticisms. Show cooperativeness,
courtesy and good will through carrying your proper share of the work and by offering assistance when it is needed. The quality and value of a group is measured by the success and accomplishments of the individuals in it. If loyalty is not possible, you should discuss the problem with the clinical training director.

Proper respect should be shown for other sections and services. Lack of respect is frequently caused by a lack of comprehension of their work and problems. Understanding and courteous treatment will do much toward maintaining friendly relationships.

Observe the following rules of etiquette when on duty:
1. Always respect information of a confidential nature regarding a patient. Never discuss a patient with anyone who is not concerned with his treatment.
2. Address co-workers by last names when patients are in the area.
3. Be punctual for work, all appointments and meetings. Be ready to work, and properly equipped at all times.
4. Assume, but never exceed your authority. Discuss problems and responsibilities with your immediate supervisor.
Standards of Training.-- The following information has been compiled as a result of an extensive research conducted by the Association for Physical and Mental Rehabilitation. Such suggestions are to be considered as a guide for this specialized area of educational preparation as it is to be correlated with the various therapies* under the direction of Physical Medicine and Rehabilitation.

Undergraduate Requisites.-- An undergraduate major in Physical Education is considered prerequisite for this specialized field.

1. Basic Sequence: Minimum 20-24 hours.
   a. Human Anatomy.
   b. Kinesiology.
   c. Physiology.
   d. Physiology of Exercise.
   e. Psychology.
   f. Corrective or Adapted Physical Education.

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1/American Board for Certification of Corrective Therapy.
2/Ibid.
3/Ibid.

* See Physical Medicine and Rehabilitation Service Organizational Chart.
2. Desirable Courses:
   a. Biology and
   b. Chemistry or
   c. Physics.

3. Hygiene
   a. Personal Hygiene or Community Hygiene.
   b. Mental Hygiene (or equivalent).

Graduate Requisites. -- 1/ This area of study should be
under medical direction.

1. Prerequisites.--
   a. Undergraduate major in Physical Education (minus
      36 semester hours).
   b. Methods courses and practice teaching experience.

2. Suggested Requisites.--
   a. Applied Sciences:
      (1). Advanced Anatomy and Kinesiology
           (3 semester hours).
      (2). Pathology (2 semester hours).
      (3). Physiology - Applied and Reconditioning
           (2-3 semester hours).
      (4). Psychology of the Handicapped - child and
           adult (2-3 semester hours).
      (5). Elementary Psychiatry (2-3 semester hours).

1/American Board for Certification of Corrective Therapy.
b. Physical Education in Rehabilitation as applied to:
   (1). Medicine and Surgery (2 semester hours).
   (2). Neurology (2 semester hours).
   (3). Orthopedics (2 semester hours).
   (4). Psychiatry II (2-3 semester hours).
   (5). Ethics and Administration (1 semester hour).

c. Technical Subjects:
   (1). Techniques of Teaching Ambulation and Self-Care Activities to the Handicapped
       (3 semester hours).
   (2). Adapted Sports and Recreational Therapy
       (2 semester hours).
   (3). Physical Reconditioning (1-2 semester hours).
   (4). Body Mechanics and Remedial Exercises
       (3 semester hours).
   (5). Hydrogymnastics for Patients with General Medical and Surgical, Neurological, and
       Psychiatric Conditions (1 semester hour).
   (6). Tests and Measurements (2 semester hours).

d. Clinical Practice: (4-6 semester hours).

e. Electives: Advanced courses of specialization related to the study of Corrective Therapy and
   Rehabilitation.
Length of Clinical Training.-- The Association for Physical and Mental Rehabilitation requires a minimum of 250 hours of clinical internship in medically supervised physical education under the sponsorship of a recognized college or university. Such experience must be under the supervision of a Doctor or Physical Medicine expert and a Certified Corrective Therapist.

Certification of Corrective Therapists.-- \(^1\) The American Board for Certification of Corrective Therapists* was organized in 1953 and is now issuing annually a register of Certified Corrective Therapists. The board is composed of a Secretary from the Association membership and representatives from the fields of medicine and education.

In order to be certified, one has to take a written and an oral examination by the American Board for Certification of Corrective Therapy.*

Certification acts to identify qualified practitioners

\(^1\)Ibid.

* American Board for Certification of Corrective Therapists and American Board for Certification of Corrective Therapy are synonymous.
in this profession and offers the public a means of protection and assurance of complete service. It helps to insure a continual upward elevation of standards, qualifications and training which are essential elements in the development and growth of our profession. Although only active members with certain stringent qualifications are eligible, there are now over 500 Corrective Therapists certified by the Board.

**Salaries.**— The starting salaries for new graduates average $4940 - $5350 per annum under Civil Service.

**Scholarship Aid.**— Limited scholarship aid is available through the sponsorship of the Association for Physical and Mental Rehabilitation. It is available to graduates, from a college or university approved and accredited by the Association, with a degree in Health and/or Physical Education.

Applications should be forwarded to the Chairman, Scholarship Fund, The Association for Physical and Mental Rehabilitation, 1472 Broadway, New York 36, New York. Applications should contain a curriculum vitae, three character and three professional references and a college transcript.
Association for Physical and Mental Rehabilitation. — 1/

All certified corrective therapists are members of the Association for Physical and Mental Rehabilitation which is a nationwide, incorporated, professional organization operated for educational and scientific purposes.

History. — 2/ The Association was formally organized in October, 1946, by a group of corrective therapists attending a special course of instruction at the Veterans Administration Hospital, Topeka, Kansas.

This formation was a natural and necessary outgrowth of the tremendous expansion of the field of Corrective Physical Rehabilitation, as organized by the Veterans Administration and the reconditioning units developed by the United States Armed Forces during and immediately following the second World War.

With the bulk of the organization's members working in the Veterans Administration and the Armed Forces, it was only natural that its leaders and its initial stimulation should come from people working in hospitals associated with those agencies. It was recognized that

1/Association for Physical and Mental Rehabilitation, Incorporated, 1959-60.

2/Ibid.
the special talents and abilities of the corrective therapists could be used in civilian hospitals and clinics. It was recognized by the therapists themselves that no member of a medical team works alone; that cooperation and integration with the other therapists was needed; that education of the public and dissemination of scientific literature and techniques could be achieved only through a national organization.

These specialists were united further in their common discipline which was founded on the postulate that activity, while essential to health, may be in itself either helpful or harmful to people abnormalized by physical or emotional illnesses and that its effectiveness as a medical adjunct must necessarily depend upon its modification and exact application to become specific therapy.

Objectives.-- The objectives as listed in the Association's Constitution, are:

1. To promote the use of medically prescribed exercise therapy and adapted physical education.

\footnote{Ibid.}
2. To advance the professional standards of education and training in the field of medically prescribed exercise therapy and adapted physical education.

3. To promote and sponsor medically prescribed exercise therapy programs of the highest scientific and professional character.

4. To encourage research and publication of scientific articles dealing with medical rehabilitation.

5. To engage in and encourage those activities related to medically prescribed activity which might prove advantageous to medical rehabilitation and/or the Association for Physical and Mental Rehabilitation.

Membership.-- Following are some reasons and advantages for joining the Association for Physical and Mental Rehabilitation.

1. To receive professional guidance and stimulus in your own rehabilitation efforts.

2. To exchange information and ideas with professional colleagues.

1/ Ibid.
3. To participate in national and regional clinical and scientific conferences.

4. To help improve and advance the rehabilitation efforts rendered by all.

5. To participate actively in research projects and publications which will elevate the professional quality of assistance given to the physically handicapped and the mentally ill.

6. To receive the Journal - which is the official organ of the Association for Physical and Mental Rehabilitation and which is a true reflection of its current policies and objectives; a complete guide to pertinent information of the Association; a most convenient way to keep pace with new ideas, techniques and literature relative to the field of physical and mental rehabilitation.
CHAPTER VI

SUMMARY

The main purpose of this manual is to outline general information, techniques and resources for the prospective corrective therapists.

The Association for Physical and Mental Rehabilitation defines Corrective Therapy as: "the application of the principles, tools, techniques and psychology of mentally oriented physical education to assist the physician in the accomplishment of prescribed objectives." 1/

Corrective Therapy is concerned with the treatment of all types of disabling conditions in the general medical, surgical, neurological, psychiatric and tubercular categories. It is utilized in all phases of medicine.

To the prevention phase of medicine, Corrective Therapy contributes through its exercise programs, modified to the patient's individual needs which prevent permanent impairment whenever possible and reverse the process through scientifically planned functional programs.

1/ Association for Physical and Mental Rehabilitation, Incorporated, 1959-60.
Data of value in connection with the phase of diagnosis and prognosis regarding a patient's condition are furnished to the physician as a result of tests and measurements of the patient's ability to perform certain types of activities inherent in his rehabilitation objectives.

The treatment is individualized according to medically prescribed procedures.

The third phase of medicine deals with rehabilitation. Corrective Therapy is concerned not only with the physical effect of treatment but also with the important areas of motivation, psychological, social and economic adjustment of the patient to disease and disability during the period of medical care. The contribution of Corrective Therapy, therefore, blends into the total rehabilitation picture by helping each individual achieve the maximum adjustment, independence and usefulness within the limitations of his impairment.

The information used in this manual was collected through reports and papers written by the corrective therapists of the Veterans Administration Hospitals in the
Greater Boston area, a review of the available literature, and practical experience.

The chapter on the Techniques and Procedures in Corrective Therapy is based on a technical bulletin by the Veterans Administration, published in March of 1954, and on the practical experience of the writer.

The manual is based on the current Corrective Therapy programs which are being conducted by the Veterans Administration Hospitals in the Greater Boston area, and will implement their current philosophies and standards of treatment practices in the field of Corrective Therapy and in medically oriented Physical Education.

In the main, the manual is addressed to the prospective corrective therapists. The first part of chapter I and chapter V in its entirety are addressed to the supervisor of the clinical training program in Corrective Therapy at the affiliating college or university.

This manual could very well be used by the student trainee as a guide for clinical training in Corrective Therapy, and could also be used for information purposes.
by any personnel interested in the field of medical rehabilitation.

There is a tremendous need for further research in the field of Corrective Therapy, especially in the areas of professional and educational requirements and the responsibilities of the colleges and universities in the preparation of Corrective Therapy personnel, which the writer has barely touched upon.

There is also need for more active participation in professional research projects and publications in order to elevate the stature of corrective therapists.

The Corrective Therapy profession will not be recognized as equal to the other therapies* until there is adequate research done and curricula set up with policies, objectives, techniques and procedures based upon scientific knowledge.

In concluding, it is hoped that a contribution has been made which will aid those interested in the field of Medical Rehabilitation, especially in Corrective Therapy.

* See Physical Medicine and Rehabilitation Service, Organizational Chart.
APPENDIX A
ABDOMINAL BINDER - Corset type canvas binder used to support the abdominals.

ABDUCTION - Movement away from the midline.

ABSCESS - A localized infection or collection of pus in a cavity formed by disintegration of tissues.

ADDUCTION - Movement toward the midline.

ACUTE - Short, sharp, having a relatively short and severe course.

ANASTOMOSIS - The surgical or pathological formation of a passage between any two normal distinct spaces or organs.

ANEMIA - A condition of blood deficiency in quantity or quality - the amount of hemoglobin or the decrease in number of red cells.

ANEURYSM - A sac formed by the dilatation of the walls of an artery or vein filled with blood.

ANGIOMA - A tumor which tends to form blood vessels or lymph cells.

ANGIOSPASM - Spasmodic contraction of the blood vessels.

ANKYLOSIS - Abnormal immobility of a joint.

ANOMALY - Deviation from the normal.

ANTAGONISTIC MUSCLES - Those muscles which tend to oppose the action of the prime movers.

ANTICOAGULANT - A substance or drug which delays coagulation of blood.

ANURESIS - Retention of urine in the bladder.

APHASIA - A defect or loss of power of expression due to injury of brain centers.

GLOBAL - That which involves functions which go to make up speech or communications, also called EXPRESSIVE.

RECEPTIVE - Inability to understand the meaning of written, spoken or tactile speech symbols, also called SENSORY.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>APROPHORIA</td>
<td>The inability to express articulated words in speech or writing.</td>
</tr>
<tr>
<td>ARTERIOSCLEROSIS</td>
<td>A condition marked by the loss of elasticity, thickening and hardening of arteries.</td>
</tr>
<tr>
<td>ASTHENIA</td>
<td>Lack or loss of strength and energy.</td>
</tr>
<tr>
<td>ASTROCYTOMA</td>
<td>A tumor composed of astrocytes (star shaped cells).</td>
</tr>
<tr>
<td>ATROPHY</td>
<td>A defect or failure of nutrition manifested as a wasting away or diminution of a size of a cell, tissue, organ or part.</td>
</tr>
<tr>
<td>BACK BRACE</td>
<td>A brace used to stabilize the spine. General types used are Taylor, Bennett, short cervical, long cervical, and Knight.</td>
</tr>
<tr>
<td>BILATERAL</td>
<td>Having two sides or pertaining to both sides.</td>
</tr>
<tr>
<td>CARDIAC</td>
<td>Of or having to do with the heart.</td>
</tr>
<tr>
<td>CATHETER</td>
<td>A tubular surgical instrument for withdrawing fluids from a cavity of the body, especially from the bladder.</td>
</tr>
<tr>
<td>CATHOUSE</td>
<td>A slang term for an external catheter. It is made from a condom and rubber tubing which covers the penis and is used to collect urine.</td>
</tr>
<tr>
<td>CAUDA EQUINA</td>
<td>The termination of spinal cord.</td>
</tr>
<tr>
<td>CAUSALGIA</td>
<td>A burning pain due to wound or other injury to peripheral nerves.</td>
</tr>
<tr>
<td>CEREBELLUM</td>
<td>The division of the brain behind the cerebrum and above the bones and the fourth ventricle.</td>
</tr>
<tr>
<td>CEREBRAL</td>
<td>Pertaining to that part of the brain known as the cerebrum.</td>
</tr>
<tr>
<td>CHRISTMAS TREE</td>
<td>Apparatus used to hold irrigation bottle when patient is on tidal drainage.</td>
</tr>
<tr>
<td>CHRONIC</td>
<td>A condition (usually an illness) which is long, continued, not acute.</td>
</tr>
<tr>
<td>CIRCUMDUCTION</td>
<td>A combination of all movements or a motion in which the distal end of a segment describes a circle and the proximal end describes the sides of a cone.</td>
</tr>
</tbody>
</table>
CLINICAL - Pertaining to clinic or bedside, or founded on actual observation and treatment of a patient.

CLOSURE - Surgical procedure used in repair of decubiti.

COAGULATION - The process of change into a clot or being changed to a clot (re blood).

COLOSTOMY - Incision of colon to make a more or less permanent fistula in the side, in order to form an artificial anus.

COMA - An abnormal deep stupor occurring in illness or a result of it; or may be due to an injury; the patient cannot be aroused by external stimuli.

COMATOSE - Pertaining to or affected with coma.

COMPRESSION - An action exerted upon a body by an external power which tends to diminish its volume and augment its density. Ex. brain, clot, tumor, fracture.

CONCENTRIC - Unresisted shortening of a muscle tension as a rapid, light, rhythmic activity.

CONDITIONING, RECUMBENT - Term on prescription to tell the therapist to avoid trunk movement.

CONGENITAL - Existing at or before birth.

CONTRACTURE - A shortening or distortion as of a muscle in the normal response to stimuli.

CONVULSION - A violent involuntary contraction or series of contractions of the voluntary muscles.

CORDOTOMY - Excision of spinal cord.

CORONARY - Encircling in the manner of a crown. A term applied to vessels, nerves, and ligaments.

CORRECTIVE

PHYSICAL EDUCATION - The scientific application of specific bodily movements for the purpose of restoring normal strength and function to the affected body parts.
CORTICAL - Pertaining to or of the nature of a cortex (the outer layer of an organ).
CRANIOTOMY - An exploratory operation of the cranium.
CVA - Cerebro-vascular accident.
CYSTOMETROGRAM - Test to check capacity and the tonicity of the bladder.
DAVOL - Trade mark for rubber leg urinal.
DECUBITUS ULCER - Gradual disintegration of the tissues caused by prolonged pressure.
DEGENERATIVE DISEASE - A disease characterized by the deterioration of body and body cells.
DERMA - True skin.
DERMATOSIS - Any skin disease, especially any disease of the true skin.
DIAPHRAGM - The musculo-membraneous portion that separates the abdomen from the thorax.
DIURETIC - Increasing the secretion of urine.
DROP FOOT - Toes down in walking with falling of foot due to paralysis of dorsal flexor muscles of foot.
DYSARTHRIA - Deformaty or malformation of a joint.
DYSTROPHIA - Defective or faulty nutrition.
ECCENTRIC - Tension of antagonistic muscles during lengthening.
EDEMA - Swelling.
ELECTROCARDIOGRAM - A graphic tracing of the electrical current produced by the contraction of the muscles of the heart. Also EKG.
EMBOLISM - The sudden blocking of a vein or artery by a clot or obstruction brought by blood current.
ENCEPHALOPATHY - Any degenerative disease of the brain.
ENDOCARDITIS - Inflammation of the endocardium. associated with acute rheumatism, dyspnea or febrile disease.
EPIDERMIS - The outermost and nonvascular layer of skin, the cuticle or scarf skin.
EPIDIDYMITIS - Inflammation of the internal genitals traveling up the urethra.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXACERBATION</td>
<td>An increase of severity in the symptoms of a disease.</td>
</tr>
<tr>
<td>EXTENSION</td>
<td>To straighten a segment at the joint, or to increase the joint angle.</td>
</tr>
<tr>
<td>EXTERNAL ROTATION</td>
<td>To revolve on an axis toward the midline.</td>
</tr>
<tr>
<td>FIBRILLATION</td>
<td>Muscular tremor, in coordinate or ventricular contraction (heart fibrillation).</td>
</tr>
<tr>
<td>FIBROSIS</td>
<td>The formation of fibrous tissue, fibroid degeneration.</td>
</tr>
<tr>
<td>FIBROUS</td>
<td>Composed of or containing fibers; as in contradistinction of bony composition</td>
</tr>
<tr>
<td>FISTULA</td>
<td>A deep, sinous ulcer, often leading to an internal hollow organ. Common in paraplegia in the urethral and anal areas.</td>
</tr>
<tr>
<td>FISTULOTOMY</td>
<td>Surgical procedure to correct fistula.</td>
</tr>
<tr>
<td>FLACCID</td>
<td>Weak, lax or soft - refers to muscles in paralysis.</td>
</tr>
<tr>
<td>FLEXION</td>
<td>To bend a segment at the joint, or to decrease the joint angle.</td>
</tr>
<tr>
<td>FOSTER FRAME</td>
<td>Special orthopedic bed used to facilitate turning of seriously injured patients.</td>
</tr>
<tr>
<td>FRONTAL LOBE</td>
<td>A cerebral lobe corresponding in position to frontal bone.</td>
</tr>
<tr>
<td>FUNGUS</td>
<td>Any one of a class of vegetable organisms of a low order of development.</td>
</tr>
<tr>
<td>GRAVITY</td>
<td>That force which has a tendency to pull objects or weights toward the center of the earth.</td>
</tr>
<tr>
<td>HCVD</td>
<td>Hypertensive cardiovascular disease.</td>
</tr>
<tr>
<td>HEMANGIOMA</td>
<td>A benign tumor made of new formed blood vessels.</td>
</tr>
<tr>
<td>HEMATOMA</td>
<td>A tumor containing effused blood.</td>
</tr>
<tr>
<td>HEMIPARESIS</td>
<td>Muscular weakness affecting one side.</td>
</tr>
<tr>
<td>HEMIPLEGIA</td>
<td>Paralysis of one side of the body.</td>
</tr>
<tr>
<td>HEMISPHERES</td>
<td>Either lateral half of the cerebrum or cerebellum.</td>
</tr>
<tr>
<td>HEMODYNAMICS</td>
<td>The study of the movement of the blood and the forces concerned within.</td>
</tr>
<tr>
<td>Term</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>HEMORRHAGE</td>
<td>Bleeding internally; a copious escape of blood from the vessels.</td>
</tr>
<tr>
<td>HERNIATED</td>
<td>Protruding, like a hernia, enclosed in a hernia.</td>
</tr>
<tr>
<td>HODGKIN'S DISEASE</td>
<td>A painless, progressive and fatal enlargement of lymph nodes, and spleen which spreads in the neck and goes all over the body.</td>
</tr>
<tr>
<td>HYPERESTHESIA</td>
<td>Unusual sensitivity to sensory stimuli, such as pain or touch.</td>
</tr>
<tr>
<td>HYPERSONSITIVE</td>
<td>Abnormally sensitive.</td>
</tr>
<tr>
<td>HYPERTENSION</td>
<td>Abnormal high tension, especially in high blood pressure.</td>
</tr>
<tr>
<td>HYPHIDROSIS</td>
<td>Deficiency of perspiration.</td>
</tr>
<tr>
<td>HYPOESTHESIA</td>
<td>Below normal sensitivity to sensory stimuli.</td>
</tr>
<tr>
<td>INFARCTION</td>
<td>The formation of an area of coagulation in tissue due to local anemia resulting from bad circulation in that area.</td>
</tr>
<tr>
<td>INTERNAL ROTATION</td>
<td>To revolve on an axis toward the midline.</td>
</tr>
<tr>
<td>INVERSION</td>
<td>To turn the bottom of foot inward.</td>
</tr>
<tr>
<td>KINESIOLOGY</td>
<td>The scientific study of human motion.</td>
</tr>
<tr>
<td>KUB</td>
<td>X-ray of kidneys, urethra and bladder.</td>
</tr>
<tr>
<td>LACERATION</td>
<td>The act of tearing - a wound made by tearing.</td>
</tr>
<tr>
<td>LAMINA</td>
<td>Layer of membrane; covers spinal cord.</td>
</tr>
<tr>
<td>LAMINECTOMY</td>
<td>Incision of the posterior arch of a vertebra.</td>
</tr>
<tr>
<td>LEG BRACES</td>
<td>Braces used to stabilize the legs so they will support the weight of the body. Pope type is used for ambulation and knee cases for standing.</td>
</tr>
<tr>
<td>LESION</td>
<td>Morbid change in the structure of an organ or tissue.</td>
</tr>
<tr>
<td>LEUKEMIA</td>
<td>A fatal disease of blood forming organs, characterized by an increase in the number of leukocytes.</td>
</tr>
<tr>
<td>LEUKOCYTOSIS</td>
<td>An increase in the number of leukocytes in the blood, occurring normally in pregnancy and digestion.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>--------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>LEVEL</td>
<td>In paraplegia and quadriplegia, the site of the lesion.</td>
</tr>
<tr>
<td>LIGATE</td>
<td>To tie or bind with a thread or wire.</td>
</tr>
<tr>
<td>LUCID</td>
<td>Clear, not obscure.</td>
</tr>
<tr>
<td>MEDULLA</td>
<td>Medulla oblongata - the central portion of any organ as contrasted with its cortex.</td>
</tr>
<tr>
<td>MONOPLEGIA</td>
<td>Paralysis of but a single part. Paralysis of one extremity.</td>
</tr>
<tr>
<td>MUSCLE RE-EDUCATION</td>
<td>That form of therapeutic exercise given to muscles in which principally the neuromuscular coordination has in some way become disturbed.</td>
</tr>
<tr>
<td>MUSCLE SETTING</td>
<td>The contractility of a muscle but no joint movement.</td>
</tr>
<tr>
<td>MYELITIS</td>
<td>Inflammation of the spinal cord.</td>
</tr>
<tr>
<td>MYELOPATHY</td>
<td>Any disease of the spinal cord or of myeloid tissue.</td>
</tr>
<tr>
<td>MYOSITIS OSSIFICANS</td>
<td>Muscle cells or tissue turning to bone.</td>
</tr>
<tr>
<td>OCCIPITAL</td>
<td>Pertaining to the occiput.</td>
</tr>
<tr>
<td>OCCLUSION</td>
<td>The act of closure or state of being closed.</td>
</tr>
<tr>
<td>OPTIMUM</td>
<td>That condition of surroundings which is conducive to the most favorable activity of function.</td>
</tr>
<tr>
<td>OSTEOMYELITIS</td>
<td>Inflammation of bone caused by a pyogenic organism. It may remain localized or it may spread through the bone to involve the marrow, cortex, cancellous tissue and periosteum.</td>
</tr>
<tr>
<td>OSTEOSIS</td>
<td>The formation of bony tissue, especially the infiltration of connection tissue with bone.</td>
</tr>
<tr>
<td>PARAPLEGIA</td>
<td>Paralysis of the legs and lower part of the body, both motion and sensation being affected. It is caused by disease or injury of the spine.</td>
</tr>
<tr>
<td>PARIETAL</td>
<td>Of or pertaining to the walls of a cavity.</td>
</tr>
<tr>
<td>PATHOGENESIS</td>
<td>The development of morbid conditions or of disease.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>PATHOLOGIC</td>
<td>Pertaining to pathology.</td>
</tr>
<tr>
<td>PERIPHERAL</td>
<td>Pertaining to or situated at or near the periphery.</td>
</tr>
<tr>
<td>PERIVASCULAR</td>
<td>Situated around a vessel.</td>
</tr>
<tr>
<td>PETECHIA</td>
<td>Blood nearly through the skin with or without edema.</td>
</tr>
<tr>
<td>PHLEBITIS</td>
<td>Inflammation of a vein.</td>
</tr>
<tr>
<td>PLAQUES</td>
<td>Any patch or flat area.</td>
</tr>
<tr>
<td>PLEXUS</td>
<td>A network or tangle, especially of nerves, veins or lymphatics.</td>
</tr>
<tr>
<td>PREMONITORY</td>
<td>Serving as a warning.</td>
</tr>
<tr>
<td>PRESCRIPTION</td>
<td>Work order from the physician.</td>
</tr>
<tr>
<td>PRESSOR REFLEX</td>
<td>Any reflex in which the response is a rise in the general arterial blood pressure.</td>
</tr>
<tr>
<td>PRESSURE SORE</td>
<td>Gradual disintegration of the tissue caused by prolonged pressure.</td>
</tr>
<tr>
<td>PROLIFERATION</td>
<td>The reproduction or multiplication of similar forms, especially of cells and morbid cysts.</td>
</tr>
<tr>
<td>PROSTHESIS</td>
<td>An artificial substitute for a missing part, as hand, leg, etc.</td>
</tr>
<tr>
<td>QUADRIPLEGIA</td>
<td>Paralysis of all four limbs, both motion and sensation being affected.</td>
</tr>
<tr>
<td></td>
<td>It is caused by disease or injury to the spine.</td>
</tr>
<tr>
<td>REFLEX</td>
<td>A reflected action or movement; the sum total of any particular involuntary activity.</td>
</tr>
<tr>
<td>REMISSION</td>
<td>A diminution or abatement of the symptoms of a disease; also the period during which such diminution occurs.</td>
</tr>
<tr>
<td>RENAL</td>
<td>Pertaining to the kidney.</td>
</tr>
<tr>
<td>RESIDUAL</td>
<td>That which is left in the bladder after urination.</td>
</tr>
<tr>
<td>RHEUMATIC FEVER</td>
<td>Disease marked by inflammation of connective tissue structures of the body, especially muscles and joints with pain in these parts.</td>
</tr>
<tr>
<td>RHIZOTOMY</td>
<td>Surgical procedure cutting the afferent spinal nerve roots to relieve pain or spasm.</td>
</tr>
</tbody>
</table>
SALINE - Salty; of the nature of a salt; containing a salt or salts.

SHOCK - A condition of acute peripheral circulatory failure due to derangement of circulatory control or loss of circulating fluid and brought about by injury.

SOMATIC - Pertaining to the body; especially pertaining to the framework of the body as distinguished from the viscera.

SPASM - A sudden, violent involuntary contraction of a muscle or group of muscles.

SPASTIC - Of the nature of or characterized by spasms. Hypertonic, so that the muscles are stiff and the movements awkward.

STATIC - Contraction in which the muscle tension is sustained throughout the period of activity, as in weight lifting.

STONE - Any abnormal concretion within the animal body, usually composed of mineral salts; found in kidneys, ureter, bladder, urethra.

STROKE - A sudden or severe attack as of apoplexy or paralysis.

STRYKER FRAME - Special orthopedic bed used to facilitate the posture and turning of patients with spinal injuries.

SUBARACHNOID - Situated or occurring beneath the arachnoid.

SUBCORTICAL - Situated beneath the cortex.

SUBLURAL - Situated beneath the dura.

SUBLUXATION - An incomplete or partial dislocation.

SUDORRHEA - Excessive sweating, hyperhidrosis.

SUPINE - Lying on the back.

SUPRAPUBIC - A catheter inserted into the bladder through the abdomen and above the pubic arch.

SUTURE - A surgical stitch or seam.

SYSTEMATIC - Pertaining to or according to a system.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>THROMBOPHLEBITIS</td>
<td>Sweating of legs caused by a clot in the veins.</td>
</tr>
<tr>
<td>THROMBOSIS</td>
<td>The formation, development or presence of a thrombus.</td>
</tr>
<tr>
<td>THROMBUS</td>
<td>A plug or clot in a blood vessel or in one of the cavities of the heart formed by coagulation of the blood, and remaining at its point of formation.</td>
</tr>
<tr>
<td>TIDAL DRAINAGE</td>
<td>Procedure to develop tone in the bladder when developing an automatic bladder.</td>
</tr>
<tr>
<td>TONIC</td>
<td>Producing and restoring the normal tone.</td>
</tr>
<tr>
<td>TRAUMA</td>
<td>Wound or injury.</td>
</tr>
<tr>
<td>TRAUMATIC</td>
<td>Of or pertaining to or caused by an injury.</td>
</tr>
<tr>
<td>TRIPLEGIA</td>
<td>Paralysis of three extremities.</td>
</tr>
<tr>
<td>TUR</td>
<td>Symbol for surgical procedure - transurethral resection.</td>
</tr>
<tr>
<td>TUMOR</td>
<td>Swelling, morbid enlargement. A neoplasm. A mass of new tissues which persist and grow independent of its surrounding structures and have no physiologic use.</td>
</tr>
<tr>
<td>ULCER</td>
<td>Loss of substance on a cutaneous or mucous surface, causing gradual disintegration and necrosis of the tissues.</td>
</tr>
<tr>
<td>VASCULAR</td>
<td>Pertaining to or full of vessels.</td>
</tr>
<tr>
<td>VASOCONSTRICTOR</td>
<td>Causing constriction of the blood vessels. A vasmotor nerve or a drug which causes constriction of the blood vessels.</td>
</tr>
<tr>
<td>VASODILATOR</td>
<td>Causing dilatation of blood vessels, especially of the arterioles. Any drug or nerve which causes dilatation of the blood vessels.</td>
</tr>
<tr>
<td>VASOSPASM</td>
<td>Spasm of the blood vessels, resulting in decrease of their caliber.</td>
</tr>
<tr>
<td>WRISTDROP</td>
<td>A paralysis of the extensor muscles of the hand and fingers.</td>
</tr>
</tbody>
</table>
APPENDIX B
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABULIA</td>
<td>Lack or weakness of will.</td>
</tr>
<tr>
<td>ABREACTION</td>
<td>Emotional release resulting from calling to awareness a painful experience which has been repressed because consciously intolerable.</td>
</tr>
<tr>
<td>ACTING OUT</td>
<td>Expression of unconscious emotional conflicts or feelings of hostility or love in actions that individuals do not consciously know are related to such feelings or conflicts.</td>
</tr>
<tr>
<td>ADJUSTMENT</td>
<td>The relation between individual, his inner self, and his environment.</td>
</tr>
<tr>
<td>AFFECT</td>
<td>A person's emotional feeling tone.</td>
</tr>
<tr>
<td>AFFECTIVE PSYCHOSIS</td>
<td>A psychotic reaction in which the predominant feature is a severe disorder of mood or emotional feelings.</td>
</tr>
<tr>
<td>AGGRESSION</td>
<td>Forceful attacking action; physical, verbal or symbolic.</td>
</tr>
<tr>
<td>AGITATED DEPRESSION</td>
<td>A psychotic depression accompanied by gross and continuous physical restlessness.</td>
</tr>
<tr>
<td>AGITATION</td>
<td>A state of chronic restlessness.</td>
</tr>
<tr>
<td>AGORAPHOBIA</td>
<td>Morbid fear of wide open spaces.</td>
</tr>
<tr>
<td>ALCOHOLIC PSYCHOSIS</td>
<td>A group of severe mental disorders associated with brain damage or dysfunction resulting from excessive use of alcohol.</td>
</tr>
<tr>
<td>ALEXIA</td>
<td>Inability to understand written or printed language.</td>
</tr>
<tr>
<td>AMBIVALENCE</td>
<td>Coexistence of two opposing drives, desires, feelings or emotions toward same person, object or goal (i.e. love and hate). May be conscious or partly conscious.</td>
</tr>
<tr>
<td>AMENTIA</td>
<td>A term used to denote very inferior mental capacity.</td>
</tr>
<tr>
<td>AMNESIA</td>
<td>Loss of memory.</td>
</tr>
<tr>
<td>ANOREXIA</td>
<td>Loss of appetite.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>-----------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>ANXIETY</td>
<td>Apprehension, tension, or uneasiness which stems from anticipation of danger, the source of which is largely unknown or unrecognized.</td>
</tr>
<tr>
<td>APHASIA</td>
<td>Inability to communicate or comprehend language symbols.</td>
</tr>
<tr>
<td>ASSOCIATION</td>
<td>Relationship between ideas or emotions by similarities or continuity.</td>
</tr>
<tr>
<td>ATARACTIC</td>
<td>Any agent or drug intended to induce ataraxy.</td>
</tr>
<tr>
<td>ATARAXY</td>
<td>Absence of anxiety; untroubled calmness.</td>
</tr>
<tr>
<td>ATAXIA</td>
<td>Incoordination of bodily movement, especially the extremities.</td>
</tr>
<tr>
<td>ATROPHY</td>
<td>Wasting of an organ.</td>
</tr>
<tr>
<td>AURA</td>
<td>A subjective sensation such as that preceding an epileptic seizure.</td>
</tr>
<tr>
<td>AUTISTIC THINKING</td>
<td>Thinking which involves imaginary gratification of wishes.</td>
</tr>
<tr>
<td>AUTO-EROTIC</td>
<td>Self gratification of sexual desire.</td>
</tr>
<tr>
<td>BLOCKING</td>
<td>Difficulty in recollection or interruption of a train of thought or speech due to emotional factors usually unconscious.</td>
</tr>
<tr>
<td>CATALEPSY</td>
<td>A semi-rigid condition of the muscles which will maintain the limbs in any position in which placed.</td>
</tr>
<tr>
<td>CASTRATION</td>
<td>Loss of genital organs.</td>
</tr>
<tr>
<td>CATATONIA</td>
<td>A type of schizophrenia characterized by immobility with muscular rigidity or inflexibility.</td>
</tr>
<tr>
<td>CATHARSIS</td>
<td>Healthful release of ideas through a &quot;talking out&quot; of conscious material accompanied by appropriate emotional reaction.</td>
</tr>
<tr>
<td>CHARACTER</td>
<td>The sum of the relatively fixed personality traits or habitual modes of response of an individual.</td>
</tr>
<tr>
<td>COMPENSATION</td>
<td>A mental mechanism, operating un­consciously by which the individual attempts to make up for real or fancied deficiencies.</td>
</tr>
</tbody>
</table>
CEREA FLEXIBILITAS - A condition in which the extremities (Waxy Flexibility) show a waxlike rigidity and continue to remain in the position in which they have been placed.

CIRCUMSTANTIALITY - Facts told with much unnecessary and irrelevant detail but the goal idea is finally reached.

CLAUSTROPHOBIA - A morbid fear of closed places.

CLONIC - The stage of a convulsion during which the muscles alternately contract and relax.

CLOUDING OF CONSCIOUSNESS - Loss or partial loss of orientation and failure to comprehend the present environment clearly.

COMPENSATION - Mechanism by means of which one disguises from the ego, the presence of an undesirable trait by calling into play a desirable trait and exaggerating its manifestations.

COMPLEX - A group of associated ideas which have a common strong emotional tone.

COMPULSION - An insistent repetitive and unwanted urge to perform an act which is contrary to the person's ordinary conscious wishes or standards.

CONFABULATION - Making up stories. Relating events which never took place in order to fill gaps of memory.

CONFLICT - A painful emotional state resulting from a tension between opposed and contradictory wishes.

CONVERSION - A process whereby repressed urges become manifest as physical symptoms.

COPROLALIA - Speech relating to feces or to the symbolic representation of feces.

CUSTODIAL CARE - Applying to simple detention and guarding, as contrasted with treatment.

CYCLOTHYMIC - Characterized by contrasting mood swings of depression and elation.
<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DELUSION</td>
<td>A false fixed belief which cannot be changed by argument or reason.</td>
</tr>
<tr>
<td>OF GRANDEUR</td>
<td>A false belief in one's own power, wealth and glory to an exaggerated degree.</td>
</tr>
<tr>
<td>OF PERSECUTION</td>
<td>A false belief that one is the victim of persecution or subjected to the jests of enemies.</td>
</tr>
<tr>
<td>OF REFERENCE</td>
<td>A false belief that events in the environment are referring to you.</td>
</tr>
<tr>
<td>OF INFLUENCE</td>
<td>A false belief that someone is exerting an evil or unwanted influence on you.</td>
</tr>
<tr>
<td>OF GUILT</td>
<td>A false belief that one has committed some misdeed, series of sins or crimes.</td>
</tr>
<tr>
<td>DEMENTIA</td>
<td>A lasting impairment of intellectual capacities.</td>
</tr>
<tr>
<td>DENIAL</td>
<td>A mental mechanism, operating unconsciously, used to resolve emotional conflict and allay consequent anxiety, by denying some of the important elements.</td>
</tr>
<tr>
<td>DEPERSONALIZATION</td>
<td>Feelings of unreality or strangeness concerning either the environment or self.</td>
</tr>
<tr>
<td>DEPRESSION</td>
<td>A persistent feeling of sadness often accompanied by feelings of hopelessness, inadequacy and unworthiness.</td>
</tr>
<tr>
<td>DESTRUCTIVENESS</td>
<td>Destroying useful articles.</td>
</tr>
<tr>
<td>DETERIORATION</td>
<td>An impairment of the emotional and higher mental aspects of the personality.</td>
</tr>
<tr>
<td>DIPSOMANIA</td>
<td>Periodic uncontrollable desire for alcoholic drink.</td>
</tr>
<tr>
<td>DISORIENTATION</td>
<td>Loss of awareness of position of self in relation to space, time, or persons.</td>
</tr>
<tr>
<td>DISPLACEMENT</td>
<td>A mental mechanism, operating unconsciously, in which an emotion is transferred or displaced from its original object to a more acceptable substitute object.</td>
</tr>
<tr>
<td>DISSOCIATION</td>
<td>A condition where feeling, acting and thinking are not in harmony.</td>
</tr>
</tbody>
</table>
DRIVE - In psychiatry, a term for motivation; a basic urge.
DYNAMICS - The determination of how an emotional or a behavior pattern develops.
DYSARTHRIA - Impairment of articulation due to disease of nerve cells supplying the muscles of speech.
ECHOLALIA - Repetition of exact words used by another person.
ECHOPRAXIA - Repetition of the actions of another person.
EGO - Refers to the conscious self.
EGO IDEALS - That part of the personality which comprises the aims and goals of the self.
EGOMANIA - Abnormal self-esteem.
ELATION - Intensified feeling of well being and joy.
EMOTION - A subjective feeling (of which one may or may not be specifically aware) such as fear, anger, joy, grief, or love.
EMOTIONAL HEALTH - A state of being which is relative rather than absolute in which a person has effected a reasonably satisfactory integration of his instinctual drives.
EMOTIONAL LIABILITY - Unstable emotions, rapid swings of mood.
EMPATHY - An objective and insightful awareness of the feelings, emotions, and behavior of another person and their meaning and significance.
EPISODE - A transitory phase in a disorder.
EUPHORIA - Exaggerated sense of well being not warranted by circumstances or conditions.
EXCRETA CARELESS - Disregard of where or how they evacuate.
EXHIBITIONISM - The exposure of the body or parts of the body or actions to attract sexual interest.
EXTRAVERSION - Direction of one's psychic energy to objects and affairs outside one's self.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fabrication</td>
<td>Relating imaginary events as true.</td>
</tr>
<tr>
<td>Fantasy</td>
<td>An imaginary sequence of events of mental images.</td>
</tr>
<tr>
<td>Fear</td>
<td>Emotional response to consciously recognized and external sources of danger.</td>
</tr>
<tr>
<td>Fetish</td>
<td>A love object - hair, glove, shoe, eye - which through association arouses erotic impulses.</td>
</tr>
<tr>
<td>Fixation</td>
<td>The arrest of psycho-sexual maturation.</td>
</tr>
<tr>
<td>Fixed Idea</td>
<td>A trend of thought which tends to recur and dominate the mental life of the individual.</td>
</tr>
<tr>
<td>Flight of Ideas</td>
<td>Verbal skipping from one idea to another before the last one has been concluded.</td>
</tr>
<tr>
<td>Free Association</td>
<td>The process by which an individual without prompting, raises or expands upon an idea.</td>
</tr>
<tr>
<td>Frustration</td>
<td>Prevention of gratification of an impulse, instinct, desire or urge. Denial of gratification by reality.</td>
</tr>
<tr>
<td>Fugue</td>
<td>An episode of seemingly conscious behavior followed by an amnesia for the episode.</td>
</tr>
<tr>
<td>Functional Illness</td>
<td>An illness of emotional origin in which organic or structural changes are either absent or are developed secondarily to prolonged emotional stress.</td>
</tr>
<tr>
<td>Functional Psychosis</td>
<td>A behavior disorder which develops through learning, essentially of psychogenic origin.</td>
</tr>
<tr>
<td>Grimacing</td>
<td>Moving the face about in a grotesque or peculiar manner.</td>
</tr>
<tr>
<td>Hallucination</td>
<td>A sense perception without external stimuli.</td>
</tr>
<tr>
<td>Auditory</td>
<td>Hearing a sound when there is no auditory stimulus.</td>
</tr>
<tr>
<td>Gustatory</td>
<td>Tasting something which is not present and when there is nothing present to suggest the taste.</td>
</tr>
</tbody>
</table>
HALLUCINATION

- Cont'd

OLFACTORY - Smelling something which is not present, and there is no smell present to suggest it.

TACTILE - Feeling something (touching the skin, or something the matter with an internal organ) which is not really occurring.

VISUAL - Seeing something without visual stimulus.

HEBEPHRENIA - A type of schizophrenia characterized by silly manneristic behavior.

HEMIPLEGIA - Paralysis of one side of the body.

HETEROSEXUALITY - Love of persons of opposite sex.

HOMICIDAL - Attempts or reference to taking the life of another person.

HOMOSEXUALITY - Love of persons of the same sex.

HYPOCHONDRIASIS - A morbid anxiety about physical disease and tendency to complain of imaginary ailments or to exaggerate a slight one.

HYPOMANIA - A mild form of manic excitement.

HYSTERIA - An illness resulting from emotional conflict and generally characterized by immaturity, impulsiveness, attention seeking, dependency and the use of the mental mechanisms of conversion and dissociation.

ID - That part of the personality structure which harbors the unconscious, instinctive desires and strivings of the individual.

IDEALIZATION - A mental mechanism operating unconsciously in which there is overestimation of some admired aspect or attribute of another person.

IDEAS OF REFERENCE - Incorrect interpretation of casual incidents and external events as having reference to one's self.

IDENTIFICATION - A mental mechanism, operating unconsciously, by which an individual endeavors to pattern himself after another.

ILLUSSION - The misinterpretation of a real, external sensory experience.
IMPULSE - A psychic striving; usually refers to an instinctive urge.

INCOHERENCE - Rambling conversation with ideas that are not naturally related.

INCOMPETENT - A legal term for a person who cannot be held responsible for his actions because of serious illness or mental deficiency.

INFERIORITY COMPLEX - An organization of affective elements predisposing one to feelings of insecurity, incompetence and unworthiness in any social situation involving competitive activities.

INHIBITION - Unconscious interference with or restriction of instinctual drives.

INSANITY - An old vague, legal term for the psychotic state.

INTEGRATION - The useful organization of both new and old data, experience, and emotional capacities into the personality.

INTRAPSYCHIC - That which takes place within the psyche or mind.

INTROJECTION - A mental mechanism, operating unconsciously, whereby loved or hated external objects are taken within oneself.

INTROVERT - A type of personality characterized by a directing of mental energy towards one's self and one's own experience.

INVOLUTIONAL - The period when the activity of the endocrine and of the sex glands and of the physiological functions in general begin to decline, generally from 50 years of age onward.

LABILE - Rapidly shifting emotions.

LATENT - Hidden, inactive, quiet.

LETHARGY - Slow in thought or movement.

LIBIDO - The psychic drive or energy usually associated with the sexual instinct.

MALINGER - To pretend illness.

MANIC DEPRESSIVE - A psychiatric disorder characterized by alternating depression and exaltation.
MANIC DEPRESSIVE PSYCHOSIS
- A behavior disorder marked by oscillations of mood between exaltation and depression.

MANNERISM
- A gesture or other form of expression peculiar to a given individual.

MASOCHISM
- Pleasure derived from suffering physical or psychological pain.

MELANCHOLIA
- A morbid mental state characterized by depression.

MENTAL MECHANISMS
- Adjusting devices.

MUTISM
- Without speech.

NARCISSISM
- Self-love.

NEGATIVISM
- Negative attitude or behavior.

NEOLOGISM
- In psychiatry, a new word or condensed combination of several words coined by a patient to express a highly complex meaning related to his conflicts; not readily understood by others; common in schizophrenia.

NEURASTHENIA
- A minor behavior disorder characterized by chronic complaints of weakness and fatigue.

NEUROSES
- Emotional maladaptations due to unresolved unconscious conflicts.

NIHILISM
- The delusion of non-existence.

OBSESSION
- Persistent, unwanted idea or impulse that cannot be eliminated by logic or reasoning.

OEDIPUS COMPLEX
- Incestuous desires of son for his mother, usually accompanied by hostility for the father.

PANIC
- A sudden overpowering feeling of terror.

PARANOID
- Characterized by oversuspiciousness but not easily proved delusional.

PARESIS
- A psychosis resulting from syphilitic infection.

PEDOPHILIA
- Sexual perversion characterized by morbid love of immature children.

PERSEVERATION
- Persistence of one reply, or one idea to any question asked.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHANTASY</td>
<td>See FANTASY</td>
</tr>
<tr>
<td>PHOBIA</td>
<td>A fixed morbid fear of an object or situation.</td>
</tr>
<tr>
<td>PLAY THERAPY</td>
<td>A psychotherapeutic approach to children's emotional disorders in which the observation and interpretation of the child's use of his play material and his fantasy in his games and play form part of the therapy.</td>
</tr>
<tr>
<td>PROJECTION</td>
<td>Transferring to others, feelings, attitudes or motives which are really one's own.</td>
</tr>
<tr>
<td>PSYCHASTHENIA</td>
<td>A psychoneurosis characterized by fears, compulsions, and obsessions; one chief symptom being morbid attention to detail.</td>
</tr>
<tr>
<td>PSYCHIATRY</td>
<td>The medical science which deals with the origin, diagnosis, prevention, and treatment of emotional illness and asocial behavior.</td>
</tr>
<tr>
<td>PSYCHE</td>
<td>The mind, in distinction to the soma or body.</td>
</tr>
<tr>
<td>PSYCHE TRAUMA</td>
<td>An emotional shock.</td>
</tr>
<tr>
<td>PSYCHOGENIC</td>
<td>Caused by mental conflicts or other psychological factors.</td>
</tr>
<tr>
<td>PSYCHONEUROSIS</td>
<td>A functional behavior disorder of minor nature arising as reaction to external or internal stress; does not involve deterioration.</td>
</tr>
<tr>
<td>PSYCHOPATH</td>
<td>An individual with marked instability but no pathological derangement.</td>
</tr>
<tr>
<td>PUNNING</td>
<td>Using words that have the same sound but different meanings.</td>
</tr>
<tr>
<td>RATIONALIZATION</td>
<td>An unconscious process of self-justification. An unwillingness to recognize real reasons.</td>
</tr>
<tr>
<td>REGRESSION</td>
<td>The return of the personality or some part of the personality to some simpler earlier stage of development.</td>
</tr>
<tr>
<td>REMISSION</td>
<td>The temporary abatement of symptoms.</td>
</tr>
<tr>
<td>REPRESION</td>
<td>A mental mechanism, operating unconsciously.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Retardation</td>
<td>Slowness in speech and motion.</td>
</tr>
<tr>
<td>Romberg Symptom</td>
<td>Swaying or falling when standing upright with eyes closed and heels and toes together.</td>
</tr>
<tr>
<td>Sadism</td>
<td>Sexual perversion in which pleasure is derived from inflicting suffering or pain on another.</td>
</tr>
<tr>
<td>Schizoid</td>
<td>Unsocial type of personality given to fantasy and with more-or-less inadequate emotional life.</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>A severe emotional disorder of psychotic depth characterized by a marked retreat from reality with delusion formations, hallucinations, emotional disharmony, and regressive behavior.</td>
</tr>
<tr>
<td>Somatic</td>
<td>Pertaining to the body.</td>
</tr>
<tr>
<td>Stereotype</td>
<td>A prolonged, monotonous repetition of words, movements or attitudes.</td>
</tr>
<tr>
<td>Stupor</td>
<td>In psychiatry, a state in which the individual appears to be unaware of and non-reactive to his surroundings.</td>
</tr>
<tr>
<td>Sublimation</td>
<td>A mental mechanism, operating unconsciously, through which consciously unacceptable instinctual drives are diverted into personality and socially acceptable channels.</td>
</tr>
<tr>
<td>Substitution</td>
<td>A mental mechanism, operating unconsciously, through which one replaces something by another.</td>
</tr>
<tr>
<td>Super-Ego</td>
<td>In Freudian theory, that part of the mind which has unconsciously identified itself with important and esteemed persons from early life, particularly parents.</td>
</tr>
<tr>
<td>Suppression</td>
<td>Conscious effort to overcome unacceptable thoughts or desires.</td>
</tr>
<tr>
<td>Sympathy</td>
<td>Expression of compassion for another's grief or loss.</td>
</tr>
<tr>
<td>Symptom</td>
<td>A specific manifestation of an illness, objectives, subjectives, or both.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>SYNDROME</td>
<td>A group of symptoms which occur together constituting the characteristic picture of a disorder; synonymous with symptom complex.</td>
</tr>
<tr>
<td>TRANSFERENCE</td>
<td>The unconscious attachment to others of feelings and attitudes which were originally associated with important figures (parents, siblings, etc.) in one's early life.</td>
</tr>
<tr>
<td>TRAUMATIC</td>
<td>Pertaining to event, injury, or shock which creates a significant psychological disturbance.</td>
</tr>
<tr>
<td>TREMOR</td>
<td>A continued muscular spasm of limited range or movement.</td>
</tr>
<tr>
<td>UNCONSCIOUS</td>
<td>In Freudian theory, that part of the mind or mental functioning, the content of which is only rarely subject to awareness.</td>
</tr>
<tr>
<td>VERBIGERATION</td>
<td>Senseless repetition of words or phrases.</td>
</tr>
</tbody>
</table>
GENERAL MEDICAL AND SURGICAL PROGRESS REPORT

All progress reports should be informative, clear, concise and complete because they will become a permanent part of the patient's records. To insure completeness the instructor should include in his report as many of the following categories as possible.

Essential Elements of Progress Notes.--

I. Full name. Ward number. Date.
II. Attendance - regular, irregular, etc.
III. Treatment.
   A. Type of treatment:
      1. Reconditioning - General
      2. Remedial - Specific; i.e., definite muscle groups, upper or lower extremities, shoulder girdle, pelvic girdle, etc.
      3. Postural exercises:
         a. Preventive
         b. Corrective
      4. Pre-ambulation exercises.
      5. Ambulation training.
   B. Type of exercise:
      1. Passive
      2. Active assistive
      3. Active:
         a. Isometric
      4. Active resistive:
         a. Concentric
         b. Eccentric

1/Frank S. Deyoe and Joseph S. Colello, "A System of Writing Progress Reports for General Medical and Surgical Patients in the corrective Therapy Program," Journal of the Association for Physical and Mental Rehabilitation, IV (June-July, 1951), 26-27.
C. Fundamental movements:
  Extension
  Adduction
  Pronation
  Dorsiflexion
  Elevation
  Rotation
  Hyperextension
  Compression
  Inversion
  Radial flexion
  Flexion
  Abduction
  Supination
  Plantar/Palmar flexion
  Depression
  Circumduction
  Opposition of thumb
  Expansion
  Eversion
  Ulnar flexion

D. Exercise tolerance:
  1. Mild - light.
  2. Moderate
  3. Heavy - strenuous
  4. On:
     a. Bed
     b. Mat
     c. Apparatus (state type)
     d. Ambulation

IV. Effect of treatment
A. Functional strength and/or ability:
  1. Of muscle groups
  2. Of fundamental movements
  3. Of extremities
B. Joint range.
C. Coordination:
  1. General: body control-
     a. On mat
     b. In sitting position
     c. In erect position
     d. In kneeling position
  2. Specific define part of the body, i.e., arm, hand, etc.
D. Functional ambulation ability:
   1. Posture
   2. Gait
   3. Activities
   4. Endurance

E. Self-care activities:

F. Treatments discontinued because:
   1. Patient on Leave of Absence (depending on hospital policy).
      a. Treatments resumed on request from ward physician.
   2. Change in clinical status.
      a. Treatments resumed on request from ward physician.
   3. Patient has received maximum benefit from program, as determined by ward physician or physiatrist.
   4. Patient refuses to participate in prescribed program.

G. Attitude toward treatment:
   1. Cooperative - uncooperative.
   2. Conscientious - indifferent.
   3. Enthusiastic - bored.
   4. Lacks confidence - in self, in instructor.

V. Therapist's initials.

In the following page is the initial report to the corrective therapy section from the Chief Physical Medicine and Rehabilitation Service.
<table>
<thead>
<tr>
<th>1. REFERRED BY (Doctor's name and service)</th>
<th>2. TREATMENT TO BE GIVEN IN:</th>
<th>3. ANTICIPATED HOSPITAL STAY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>□ WARD □ CLINIC</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4A. HIGHEST YEAR SCHOOLING COMPLETED</th>
<th>4B. TYPE OF COURSE</th>
<th>4C. DEGREE, DIPLOMA, CERTIFICATE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>□ ACADEMIC □ COMMERCIAL □ VOCATIONAL</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5A. PRINCIPAL OCCUPATION</th>
<th>5B. SECONDARY OCCUPATION</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>6. CLINICAL DIAGNOSES</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>6A. PRIMARY</th>
<th>6B. SECONDARY</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>7. TREATMENT OBJECTIVE</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>8. SPECIAL CONSIDERATIONS (Precautions and restrictions to be observed)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>9. FINDINGS AND PRESCRIPTION</th>
</tr>
</thead>
</table>

SIGNATURE AND TITLE OF PRESCRIBING PHYSICIAN, PMRS

PATIENT'S NAME, UNIT NO., WARD NO., NAME OF STATION, DATE

THERAPY ORDER SHEET
VA FORM
NOV 1960 10-2942
From the Chief Physical Medicine and Rehabilitation Service for temporary assignment.
Progress Report to be filled by the therapist.
APPENDIX D
For purposes of clarification, there are three types of progress reports used for the neuropsychiatric patient at the Bedford Veterans Administration Hospital. Some hospitals include a fourth type, "Special". This type is written when something has occurred which made it necessary for the therapist to contact the doctor regarding the patient, changes made in prescription after re-evaluation, etc.

**Progress Note Outline for Neuropsychiatric Patients.**

A. **Initial Note:** Should be written after at least three treatments.
   1. Name, age, height, weight of patient.
   2. Date patient assigned; date reported.
   3. Activity offered; response of patient, verbally and physically.
   4. Appearance, behavior, attitude toward treatment and therapist, will he participate?
   5. Physical status; anatomically, functionally.
   6. Participation on initial assignment.
   7. Initial evaluation.
   8. Signature of therapist.

---

B. **Regular Note:** This should be written monthly.
   1. Attendance record.
   2. Activity, aptitude, adaptability, attention span, initiative.
   3. Learning ability - Does he progress? Does he block? Has his aptitude increased?
   4. Speech; coherent, retarded, mute, voisterous, confused.
   5. Facial expression; alert, suspicious, fearful.
   6. Estimate of potential, especially towards possible employment in Hospital Industries, Member Employment Program, Community, etc.
   7. Significant changes; patient's physical status and mental outlook of program in general.
   8. Signature of therapist.

C. **Final Note:** Is written when treatment is terminated by the corrective therapy section - death, discharge, illness, etc. There should be a brief summary of what has happened over the period of treatment.
   1. Period of assignment.
   2. Why discontinued?
   3. What was the patient when the therapist first saw him?
   4. What is the patient now at completion of treatment?
   5. What do I, as a therapist, recommend?
   6. Signature of therapist.

All notes will be typed in three (3) duplicate copies and sent to the Chief of section for approval and signature, who in turn sends them to the PM&RS office for approval by the Chief of PM&RS. The original note goes to the ward for patient's records, the second is retained for PM&RS files, and the third is returned to the Corrective Therapy Section.
A PROGRAM OF MAT EXERCISES FOR PARAPLEGIC PATIENTS*

Paraplegics must use crutches to ambulate. In order to carry and support the entire weight of the body more than normal strength of the shoulder girdle and upper extremities is necessary. Although it is possible to walk on crutches with little muscle power, proficiency will depend upon the development of the vicarious muscles of locomotion.

The exercises have been arranged so that repeated moving from one position to another has been eliminated. This is to avoid decubitus ulcers and also to quell the apprehension of patients who have had or fear them. The sequence is usually prone, supine, sitting, supine and prone. This progression also permits staggering of rest and activity periods for different muscle groups.

The following exercises are those which have proven the most effective. Any or all may be given in one period; the number of repetitions will depend upon the endurance.

of each patient. The patient should learn a method of transferring himself from the wheel-chair to the mat and eventually learn to get back into the chair by himself. Patients with recently healed bed sores should be assisted by the instructors.

Sitting position.

Shoulder girdle exercises:

1. Fingers on shoulders, elbows touching directly in front of chest; raise elbows forward and upward; press back squeezing shoulder blades together, force elbows downward keeping shoulder blades together; relax upper back and touch elbows in front again. Moderate cadence, gradually speeded up at end of series.

2. Arms extended sideward, shoulder high; rotate arms in small circles forward, keeping elbows straight. After several repetitions turn palms up toward ceiling while maintaining motion forward. Slowly increase radius of circle; reverse direction of motion at regular intervals. Slow cadence at start; finish exercise with maximum speed until balance is upset.
General back exercises:

1. Place hands under hamstrings and grip firmly; pull up with arms, pushing chest forward and squeezing shoulder blades together thus flattening back and, if possible, getting some arch. Hold position approximately 15 seconds. Add thoracic breathing with exercise after a few repetitions. Also, have patient experiment with taking hands from under thighs and moving arms to various positions while holding trunk erect.

2. Arms extended forward shoulder high; bend forward from waist, reach down past feet and bob up and down, forcing back muscles to work; fling arms sideward and return to sitting position; hold balance. Slow cadence, concentrate on bobbing up and down and return to sitting balance.
   a. Exercise may be extended by bobbing to right and left, touching both hands outside alternate feet.

Exercises for lateral and oblique muscles:

1. Arms extended sideward shoulder high; twisting to right and left; after maximum torsion has been reached, bob once to cause relaxation and contraction of proper
muscles. Move head and look in direction of motion. Slow cadence to start, speed up to flinging motion near conclusion of exercise as test for balance. If balance is poor, patient may use hands on mat for support.

2. Arms extended sideward shoulder high; bending forward with alternate toe touching, reaching as far outside foot as possible, and return to sitting position should be made with flinging motion rather than push-off from the mat.

General exercises for balance, forearms and wrists:

1. Arms at side; open and close fists, making certain that there is stretching and spreading of fingers with each extension. Move arms sideward, upward, and forward, pausing in each position and maintaining balance as gripping is continued. Continue until soreness starts in forearm. At conclusion of exercise have patient extend hand and stretch fingers, make a tight grip by contracting all along the arm, extend hand again, then relax completely to help relieve blood congestion.
2. Arms extended at sides, palms parallel to mat; rotate wrists slowly forward until fingers point to sides, then rotate slowly to rear as far as possible, keeping finger tips pushed up. Very slow cadence. Repeat until forearms are tired.

Exercises for triceps, shoulders and upper back:

1. Fists on mat at sides; push up, hunch shoulders forward to attain best height. Lower to point where buttocks just touch (but do not rest on) mat, then repeat to maximum ability of patient.

2. Fingertips on mat at sides; push-ups as in 1. Caution: use fingertips with fingers slightly flexed and not fingers hyper-extended as latter position which merely cuts off circulation in fingers and develops no real strength in hands.

3. Push-up as in 1., bend head forward on chest and "hike" buttocks back through hands as far as possible then lower to mat; place fists about six inches to rear of body and repeat. At conclusion of this, work forward in same manner, moving head backward with each forward motion of body.
4. Push-up, shift weight of body from one arm to other. If patient achieves some perfection in this have him try shifting weight to right side then moving left arm back, shifting to left arm until right one can also be moved back; walk sideward, forward and backward in this fashion.

 усилено положение.

Exercises for erector muscles of back:

1. Palms on mat near side; squeeze in on back of neck, push on palms and bridge shoulders as far off mat as possible. Hold bridge approximately 5-10 seconds then relax slowly. Patient should not have to use elbows on mat after a few trials.

   a. Bridge upper torso off mat as in 1., then rock to one side, then the other by dipping alternate shoulders toward mat.

   b. Bridge well off mat; hold bridge position, take hands off mat and move arms back overhead trying to touch floor. This achieves best possible contraction of entire erector spinae group.
Exercises for abdominals:

1. Arms extended directly overhead, along floor, and biceps close to ears; move arms forward, head on chest; reach forward and bob back and forth, relaxing and contracting in the diaphragm area. Bob about 10 times at moderate cadence, lower arms and head to mat and repeat.

2. Clasp hands behind neck, elbows pointed forward; pull on arms and bring head forward on chest; bob back and forth as in 1., and at same cadence. 14 to 20 repetitions of this exercise will tire most patients.

Exercises for lateral and oblique muscles:

1. Arms at sides; reach right arm obliquely upward to left; lift head off mat and reach up and out toward floor by bobbing shoulder forward. Return to supine and repeat with alternate arm. Buttocks should remain on mat so that lateral contraction of reaching side will cause stretching of opposite side. Slow cadence. Prone position.

Exercises for all voluntarily-controlled back muscles:

1. Grab own wrist in the small of the back; squeeze the shoulder blades together, then pull on arms and lift chin and upper chest off mat as far as possible. Hold
momentarily and lower slowly. Do not collapse to the starting position. Repeat at moderate cadence.

2. Arms at sides, palms on the mat; raise arms directly up toward ceiling at the same time turning palms outward and upward to bring shoulders back and invite best contraction of all muscles involved. If proper position is reached, there should be stretching in pectorals and anterior deltoids.

3. Arms extended shoulder high along mat; lift arms and chin off mat and slowly move arms forward until they touch overhead. Hold chin off as long as possible before using it on mat in order to touch hands overhead. Lower arms to floor over head briefly; then raise (as in upper back exercise) and press arms back toward original position, coming into an arch as soon as possible. (This is a difficult exercise for most patients because of the lack of fixators in lower back).

4. Right arm extended overhead, left arm at side; lift both arms upward simultaneously. Also lift head as much as possible and press forward arm in toward ear.
Instructor may apply resistance to arm at side to increase effectiveness of exercise. Very slow cadence. Repeat about 15 times, then reverse position of arms. **Note:** This exercise, if used unilaterally, is effective in correcting torsion due to one weak set of lateral muscles.

5. Arms extended directly overhead, biceps close to ears, palms on mat; press upward off floor as far as possible. If patient is unable to get any lift on this exercise have him use chin or forehead on mat. When arms are clear of floor, press in toward head. **Note:** (If arms are allowed to spread, work can be done by substitute movement). This exercise is most specifically for upper back, though the lower back must necessarily be fixated.

**Exercise for lateral and oblique muscles:**

1. Arms extended or flexed shoulder high; shrug alternate hips up toward respective armpit. Start with prolonged contraction of side, holding hip up, then change to rhythmic contraction and relaxation of side at moderate cadence.
Four Point position (Hands and knees):

1. Balance exercise; with right hand directly under chin on mat and arm extended to form tripod support; lift arm (left) sideward shoulder high; move arm forward overhead and press up as if reaching into wheel-chair. Hold about 30 seconds and conclude by moving arm back and forth vigorously to test balance. Alternate arms.

2. Diversional exercise; push off from mat with both hands and clap them together before catching weight on mat again.

3. "Peanut roller" exercise; lower head directly between hands and roll body forward as far as possible with head close to mat, then push up with arms, head looking between legs, rounding back and contracting abdominal muscles as return is made to original position. (This is undoubtedly the best all-round exercise since at various stages of its execution the voluntarily-controlled muscles are all specifically called into action).

4. Crawling; first lift hip from starting position, then shrug forward. Alternate legs. Done forward and backward at individual speed.
Push-ups from prone position.

1. Regular push-ups, fully extending the arm and lowering to semi-rest position. These should be done at a fast cadence to develop "explosive" power in triceps.

2. Push up, lower half-way and momentarily stop, then lower to chest on mat. Begin next push-up from mat before arms actually relax. This exercise should be done at a slower cadence with a definite half-way stop to increase endurance as well as power. Note: In doing push-ups, patients will be able to raise body more completely if head is bent forward on chest and upper abdominals are contracted. The exercise is therefore more beneficial than when the body is relaxed and lift only slightly below the pelvic girdle.
PHYSICAL FITNESS TEST*

The Physical Fitness Test contains five major test items:

ITEM I. Hand and Finger. 

<table>
<thead>
<tr>
<th>Points</th>
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<tbody>
<tr>
<td>A. Tie, fold, sort, file, write (2 points each)</td>
</tr>
<tr>
<td>B. Hand grip, left (hand dynamometer) (1 point each)</td>
</tr>
<tr>
<td>C. Hand grip, right (hand dynamometer) (1 point each)</td>
</tr>
</tbody>
</table>

The results of this test item will indicate ability in special skills which are needed in some sedentary types of constructive assignment, such as clerical duties. These do not require a great amount of body strength and many can be done at the wheelchair level of function.

Procedure - This item is performed with the member seated at a desk or table.

Element (A) - Tie - Tie and untie shoelace.
    Fold - Fold towel twice.
    Sort - Sort filing cards, alphabetically.
    File - With alphabetical file cards, pick out specific letters and put on top.
    Pick another and put on bottom.
    Write - Write name and two days of week.

Element (B) and (C) - Scores indicated on hand dynamometer.

Scoring - A reading of over 10 on element (B) and (C) rates
    1 point; over 25, 2 points; over 50, 3 points; over 75,
    4 points; and over 100, 5 points.

Maximum total, Item I, 20 points.

ITEM II. Sitting.

A. Weight placement at table. Six three pound weights from left to right side and back

( 5 repetitions)............................... 5

This item requires a greater amount of strength, coordination and endurance of the upper extremities and will indicate physical ability to do certain kinds of bench work (appliance repair, instrument repair, etc.)
Procedure - This item is performed with the member seated at a desk or table.

Element (A) - Six, three pound dumbbells are to be placed on specific spots on the table. All of the dumbbells are to be moved from right to left with the left hand and from left to right with the right hand. When all 6 dumbbells are returned to the original positions, it is scored as one repetition. This element requires 5 repetitions with each hand.

Scoring - One-half point for each successful repetition.

Maximum total, Item II, 5 points.

ITEM III. Standing.

<table>
<thead>
<tr>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Free standing (2 points each)</td>
</tr>
<tr>
<td>5, 10, 15, 20, and 25 minutes .................. 10</td>
</tr>
<tr>
<td>B. Standing, lift and hold, 10 seconds (2 points each), 5, 10, 20, 30, and 40 pounds ............ 10</td>
</tr>
<tr>
<td>C. Stoop and bend, pick up, move 3 feet and deposit (2 points each) 5, 10, 20, 30 and 40 pounds ........................................ 10</td>
</tr>
</tbody>
</table>

This item relates to assignments which require standing lifting and carrying, i.e. warehouse, laundry, gardening.
Procedure -
Element (A) - Standing time is fulfilled as member waits his turn for other items.
Elements (B) and (C) are performed with weight plates in a wooden box. The therapist instructs in techniques of lifting if necessary. Member must bend, pick up the weights and come to a fully erect position.

Scoring -
Element (A) - Standing over 5 minutes scores 2 points; over 10 minutes, 4 points; over 15 minutes, 6 points; over 20 minutes, 8 points; and over 25 minutes, 10 points.
Element (B) - Two points are scored for each of the weight increments lifted.
Element (C) - Scored the same as in element (B).

Maximum total, Item III, 30 points.

ITEM IV. Climbing and Descending Stairs. Points
A. With hand rail .......................................................... 5
B. With no rail ............................................................. 5
C. Carrying 20 pounds .................................................... 5

This item is performed to indicate ability to walk up and down stairs and to function as messengers or guides.
Procedure - This item is performed on a practice 5-step stair case in the clinic. Each element involves going up and down one time.

Element (C) - is done with the member carrying a 20 pound dumbbell, use of handrail is optional. There is no rest period between elements.

Scoring - Each element is worth 5 points.

Maximum total, Item IV, 15 points.

ITEM V. Walking.

| Points | Free walking (1 point each) 50, 100, 200, 500, and 1000 yards | 5 |
| Points | Carrying (1 point each) 2, 5, 10, 15, and 20 pounds for 50 yards | 5 |
| Points | Pushing and pulling on level in wheel chair, 100 yards (2 points each) 20, 50, 100, 150, and 200 pounds | 10 |
| Points | Pushing and pulling up and down ramp (2 points each) 20, 50, 100, 150, and 200 pounds | 10 |

This item is given to show the members fitness to perform tasks involving ambulation (walking endurance, pushing and pulling). These abilities are necessary in
assignments such as pushing trash carts, wheel chairs and linen carts.

**Procedure** -

Elements (A) and (B) - are carried out in the clinic. In element (B) weight plates are carried on a weight spool with handle attached.

Elements (C) and (D) - are performed on a wooden ramp outside of the clinic. The length of the ramp is 56 feet, with an elevation differential of 3½ feet.

**Scoring** -

Elements (A) and (B) score 5 points each.

Elements (C) and (D) score 10 points each.

*Maximum total, Item V, 30 points.*

**ITEM VI. Remarks.**

This item may include such observations as: the member's ability to propel a wheel chair; individual areas of specific disability (blindness, deafness, etc.); and the use of braces or prostheses.
SELF-AID DEVICES AND AN EVALUATION OF THE HANDS OF QUADRIPLEGICS*

World War II and the years following brought an increase in the number of patients with quadriplegia. At least one third of the patients with spinal cord injuries at the Veterans Administration Hospital, West Roxbury, Massachusetts, are classified as partial quadriplegics. This, of course, implies that a great deal of time and thought by all members of the staff is necessary to help in the successful readjustment of this type of patient. In a majority of the patients with partial quadriplegia, finger flexion and extension are absent; this necessitates the use of an assistive device, to aid in self-care activities. From observation of many hand disabilities encountered in the Corrective Therapy Ward program, a simplified method of selection of the proper assistive device for different hand problems has been developed. 1/

* Presented at the Ninth Annual Conference of the Association for Physical and Mental Rehabilitation, June, 1955, Boston, Massachusetts.

In bringing the picture of quadriplegia into focus, it might be well to mention briefly the remaining muscular movements of the average patient, not for a class in anatomy, but for a working classification of the quadriplegic patient.

Musculature.-- The neck muscles are adequate in all movements and require exercise only for the purpose of allaying fatigue. Shoulder abduction muscles are good to normal and require a good deal of consideration because of the part they play in all self-care activities.

Elbow flexion is usually good to normal and is most necessary for lifting the body about in bed and for other activities such as feeding, personal hygiene and pushing the wheel chair.

Supination of forearm is fair to good and contributes to a better control of adaptive implements such as silverware, writing, and shaving devices.

Wrist extension is fair to good and permits greater skill in the use of devices required in self-care activities as well as control of the trapeze bar and pushing the wheel chair.

1/Ibid.
The following movements are absent:

1. Adduction of shoulder
2. Extension of elbow
3. Pronation of forearms
4. Wrist flexion
5. Flexion and extension of fingers

There is of course, some variation in the patterns of paralysis, depending upon the level of cord injury.

Selection of the Device Principle in Various Hand Disabilities.\(^1\)

To explain the uses of the various devices on the

\(^1\)Ibid.
display board, (Figure 1), pictures of hand disabilities most frequently encountered are shown and then the device principle most usable in each case is discussed**. There are four basic device principles (Figure 2) which help to standardize implementation and to reduce problems to a minimum.

** All the devices described have been constructed in the Orthopedic Shop of the Veterans Administration Hospital, West Roxbury, Boston, Massachusetts, under the direction of Mr. Vincent W. Andersen and Mr. Bruno Tassinari.
The most adaptive hand, (Figure 3) is a hand with strong wrist extensors and with moderate tightness in the flexors of the fingers. The strong wrist extensors are used functionally on the trapeze, pushing wheelchair and manipulation of legs. Moderate tightness of the finger flexors permits the patient to hold objects and perform other self-care activities such as dressing. "The two rings over" adaptations, (Figure 2-d), have proven to be the most satisfactory. Here, rings have been provided for the ring and index fingers. This particular hand disability allows more patients to later discard these devices and use standard equipment. On the display board, (Figure 1),
further uses of the ring principle on toilet articles and cigarette holders are shown. Rings are also successful on typewriter punchers.

The "claw fingered" hand disability is shown in (Figure 4). In the first place claw fingers are not wholly undesirable. The hooks formed by this type of contracture are very adaptable to self-care activities and present no problem to the sitting position in bed or in pushing the wheelchair. For this particular disability the "clip-on" principle (Figure 2-b) has proven to be the best. It is maneuverable and easily placed on the hand by forcing the hand into the clip. On the display board it can
be seen how versatile this device principle may be, as with eating equipment, drinking glass, toilet articles and cigarette lighters. It is by far the most widely used type of device.

The "Flail wrist" is shown in (Figure 5). Flail wrists do not necessarily prohibit self-care activities. Light cock-up splints are required and may call for assistance in placing them correctly. However, this minimal assistance will then allow the patient to carry on independently in feeding, shaving, writing, typing and other self-care activities. The device found to best fit this disability is
the "metacarpal wrap-around", (Figure 2-a). This device readily fits between the cock-up splint and the palm of the hand. The "wrap-around" offers stability from both the index fingers and the little finger side of the hand. The fitting of this device, of course must be accurate.

In the "straight finger" disability (Figure 6), the fingers may be in the way during self-care activities. The "wrap-around" and the "clip-on" devices are placed in the metacarpal areas; the "two rings over" device, (Figure 2-d), used in the case of the straight fingers is placed distal to the metacarpal-phalangeal joints of the hand. This
brings the device within better range of use. On the device display board (Figure 1), is a sample of standard silverware with two ring attachments. These rings make provision for the index and ring fingers. As you can see, this principle may also be used with toilet articles.

With forearms that are most functional in a neutral position, (Figure 7), that is midway between a prone or supine position, another use for rings, (Figure 2-c) has been found. Again there is need of active radial extension; or the use of a cock-up splint if the wrist is flail. To maintain a spoon at a functional level, the "rings over and under" principle is used. One ring is attached on the under
surface of the handle close to the hook of the spoon to provide for insertion of the thumb. The other ring is placed on the upper surface and tail of the handle. This ring is for the insertion of the index finger.

The aim of the treatment program is, of course, the development of physical ability so that assistive devices are unnecessary.

The constant practicing of proper positioning of body for good balance, and of increasing the range of control and coordination through the use of devices oftentimes means the difference of success or failure in a functional goal.

Being physically independent is a desirable goal of man and any assistance to a disabled person to attain this goal should be encouraged.
SUGGESTIONS FOR SUCCESSFUL STUDENT PROGRAM OPERATION*

Most of the following suggestions are addressed to the therapists of the Corrective Therapy sections.

1. Students should be given the opportunity to become familiar with all pertinent policies, procedures and problems of the hospital and Corrective Therapy Section, and brought to realize the importance of each in relation to the total treatment picture, and his (student's) responsibility in that total picture.

2. Be sure that you as staff therapists, know all the requirements expected of the student group. Remember that you as the staff therapists are the example for the students.

3. Criticize constructively and straightforwardly. Do not allow unfavorable situations to go uncorrected. Corrections should be made immediately.

4. Periodically, make suggestions for improvement and

* James J. Kacavas, Proposed Clinical Training Program in Corrective Therapy, Veterans Administration Hospital, Bedford, Massachusetts, (January, 1961), p. 46.
comment on improvements accomplished. Give praise when and where it is deserved.

5. Every student should know at all times where he stands and how he is doing.

6. Encourage free constructive comments and criticism from the students, asking of questions and making suggestions.

7. Allow student opportunity for growth and self-expression.

8. Show a sincere interest in your patients, your students, and student's patients and problems. Help your student to analyze his problems and patients' individual needs.

9. Observe in yourself and in your students the following:
   a. Punctuality.
   b. Cleanliness.
   c. Neatness.
   d. Professional interest.

10. All students should report to the staff therapist before they leave the clinics and/or the ward room, as to where they may be located in case of need.

11. Originality and initiative are to be encouraged, but new ideas, procedures and treatments must be cleared
through the staff therapist, before they are expected to be executed or initiated.

12. Students must conform with hospital rules and regulations.
CORRECTIVE THERAPIST'S EVALUATION OF THE STUDENT TRAINEE*

Please check your appraisal of student in those experiences you have observed as to the following factors considered to be significant.

Judge effectiveness as: EXCELLENT - SATISFACTORY - POOR.

Name of Trainee: __________________________ Date: ________________

(Last) (First)

Personal appearance and grooming habits - check following:
Always neat_____; Usually neat_____; Rarely neat_____; Posture: Good_____; Poor______;

Attitude, Rapport, Adjustment toward:
Patient_____; Therapist_____; Medical Personnel_____; Check following: Interested_____; Enthusiastic_____; Casual_____; Indifferent______;

Behavior towards others in his relationships:
Friendly_____; Cheerful_____; Tactful_______;
Considerate_____; Abrupt_______; Reserved_______;
Familiar_____; Over-confident_______;

* Carl H. Young, "Directional Goals for Clinical Therapy Experiences, (January, 1961).
Professional Approach and Understanding:
Exceptionally fine_________; Reasonably fair_________; Notably poor_________; Personality Characteristics Observed:
Well poised_________; Sincere_________; Agreeable_________; Reliable_________; Industrious_________; Conscientious in detail_________; Retiring_________; Shy_________; Self-conscious_________; Talkative_________; Aggressive_________; Irritable_________; Resentful_________; Lazy_________; Immature_________; Knowledge of therapeutic procedures and techniques observed in:
Clinics_________; Lectures_________; Discussions_________; Demonstrations_________; Professional Ethics_________; Your opinion of the student as a potential therapist:
Would you like to have this student as a colleague? Yes_________; No_________; Reason for this opinion___________________________________________________________ ___________________________________________________________ ___________________________________________________________ Received by__________________________________.
APPENDIX J
STUDENT TRAINEE EVALUATION OF THE CORRECTIVE THERAPY TRAINING PROGRAM*

Name of Trainee:

______________________________ Date:____________________

(Last) (First)

The following questions are submitted for your evaluation for the purpose of assisting this Section and improving this course in Clinical Training. Such an appraisal can only be meaningful if you give your frank and considered opinion. Use the back of the page for additional remarks.

With reference to the Training Course:

1. Did you enjoy your work experiences and why? ______________

_________________________________________________________________________

_________________________________________________________________________

2. Did you feel it was profitable, why or why not? ______________

_________________________________________________________________________

_________________________________________________________________________

3. Did the amount and type of instruction seem adequate? ______________
   Explain.

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

* Ibid.
4. What are the good features of this program and why? ___


5. What suggestions have you for improvement? ________


With reference to College or University preparation:

1. Indicate your opinion on how adequate you found your academic preparation in relation to this area of training. Be specific as to subjects. ________________

2. Would you have benefited more with additional schooling?

3. Indicate any other outstanding or weak points of your training in your school or at this hospital which have not been covered. ______________________

4. Do you think this course is long enough? __________
BIBLIOGRAPHY
BOOKS


JOURNALS, PERIODICALS, AND BULLETINS


Jones, A.C., "Utilization of Medical Resources in the Preparation of Adapted Physical Education and Corrective Therapy Personnel," The Journal of the Association for Physical and Mental Rehabilitation Vol. 13, No. 3 (May-June, 1959).


