

BOOK REVIEWS

A Handbook of Experiences With the Application of Wrist, Hand, and Finger Orthoses, by Donald J. McDougall, David A. Carus, and Amar S. Jain. Dundee, Scotland: The University of Dundee, no date, 46 pp. Illustrated, soft cover.

Prefabricated modules form the basis for a system of orthoses intended primarily for traumatic and postoperative management of the hand and wrist. This system was developed in Dundee, where approximately 60 percent of prescriptions were for trauma, and a sixth for hemiplegia. Trauma was divided almost equally into tendon, joint, and nerve injuries. The principal orthotic objective concerns positioning to avoid deformity and to maintain mobility. Indications for the system include finger injuries, such as Dupuytren's contracture, boutonniere and swan neck deformities, flexor tendon and joint injuries, and hypersensitive skin. Wrist-hand orthoses are described for painful wrist resulting from osteoarthritis, tenosynovitis, Kienbock's disease, nonunited scaphoid fracture, carpal injuries, and malunited Colles fracture. Neuromuscular indications for orthoses include hemiplegia, cerebral palsy, cervical spina bifida, and brachial plexus injury. Orthoses are also designed for rheumatoid arthritis, degloving injuries, nerve and tendon trauma, ischemia, burns, congenital anomalies, and special tasks.

Sequential fabrication techniques are illustrated for representative orthoses, with Vitrathen sheeting formed over a plaster model of the limb, and Pastazote molded directly on the body. The magnitudes and directions of forces are diagrammed for several orthoses.

The monograph concludes with an overview of hand assessment techniques, such as goniometry and various instrumented means of testing strength, and photographs of the components of the Dundee modular system for wrist-hand orthoses.

The authors, an orthotist, a rehabilitation engineer, and an orthopedist, respectively, have performed a service for the rehabilitation community by presenting a generous array of reasonably simple orthoses for the most common disorders of the hand and wrist. All of the orthoses are photographed very clearly, often with several views of

the same device. Of less clinical value are the "force maps" intended to diagram the magnitudes and directions of forces provided by dynamic orthoses. This analysis would be enhanced by integration with pertinent finger skeletal, articular, and muscular anatomy. Also of little practical value is the apparatus designed to provide an objective record of hand strength; however, the authors might have included data comparing the effects of several orthoses on a given hand impairment.

Those who treat individuals with hand impairments should find much of interest in *A Handbook of Experiences with the Application of Wrist, Hand and Finger Orthoses*. This monograph is a generally fine addition to the sparse literature on upper limb orthotics.

Handbook of Measurement and Evaluation in Rehabilitation, 2nd edition, Brian Bolton, Editor. Baltimore: Paul H. Brookes Publishing Co., 1986, 370 pp.

Brian Bolton, Professor at the Arkansas Research and Training Center, University of Arkansas, assembled a team of 32 psychologists, special education and rehabilitation experts, neurologists, vocational counsellors, and biometricians to contribute to a handbook to aid practitioners in translating client assessments into feasible rehabilitation services. The first section of the handbook, "Fundamentals of Measurement," characterizes psychological tests with regard to mode of administration and scoring, as well as exploring factors that influence test reliability and validity. The latter two chapters of the first section contain abbreviated and highlighted statistics text.

The second section, "Review of Instruments," presents descriptions of various intelligence tests, aptitude and achievement measures, and personality and vocational inventories. Future trends and ethical issues in testing are discussed briefly by several of the authors.

The major section of the handbook, "Applications in Rehabilitation," links statistical concepts and test instruments to practical concerns, particularly those of vocational counsellors working with various client populations, including persons with

visual, auditory, intellectual, and emotional impairments. A description of the general vocational evaluation requirements leads to specific discussion of United States Employment Service tests and their relation to the *Dictionary of Occupational Titles*, and similar source books. On a more conceptual level, the chapter on the Minnesota Theory of Work Adjustment may enable counsellors to predict work adjustment through matching personality traits, especially satisfaction, with features in the workplace, as stated in a series of propositions and corollaries. Similarly, the issue of vocational maturity, that is, level of occupational attainment, is related to the particular needs of individuals with physical and mental disabilities.

The handbook concludes with a discussion of counsellor competence, a matter which has implications beyond the realm of vocational rehabilitation. Throughout the medical community, the dilemma of differentiating clinicians who currently render satisfactory service from those whose skills are obsolete is an unresolved and increasingly important task, as funding for health services diminishes.

Chapters include generous bibliographies, with a refreshing number of recent entries. Inasmuch as many lists have 30 or more references, a two-tier approach, where articles and books would be categorized by primary or secondary importance, might help to guide the reader.

The *Handbook of Measurement and Evaluation in Rehabilitation* presents a concise, encyclopedic compendium of the elements for assessing rehabilitation clients. It should prove to be a useful resource for professionals in the field, particularly vocational counsellors and students.

The International Directory of Recreation-Oriented Assistive Device Sources, John A. Nesbitt, Editor. Marina Del Ray, California: Lifeboard Press, 1986, 259 pp. Illustrated, soft cover.

Recreation for individuals with physical disabilities is currently as fashionable as the enthusiasm for sports and fitness within the general population. The editor compares this directory to the old Sears-Roebuck catalogues, which informed people of what is available, created a desire for things which would improve the quality of people's lives, and provided access to the means. The monograph is part of a series of publications which will eventually include job-, child-, and adult-oriented directo-

ries, and one featuring current prosthetic devices.

The format of the directory is logical, beginning with indices arranged according to recreational activity, disability, and function, such as balance and support or throwing. The main section is arranged alphabetically by activity. Each activity lists the effect of disability, mechanical solution, and source of the assistive device. The directory includes many sketches and photographs.

Special features of the directory include a facilities section, a list of advocates, and a list of suppliers. The section on facilities modifications describes requirements for parking and architectural access for persons using wheelchairs or having difficulty walking, including dimensions for ramps, restrooms, and other construction details. An appendix lists the names, addresses, and telephone numbers of many organizations devoted to particular sports for disabled individuals, as well as businesses which offer adapted equipment suitable for a specific sport. Arrangement of listings by a given athletic or cultural endeavor facilitates information-gathering.

The directory is a useful complement to *Physical Fitness: Sports and Recreation for Those with Lower Limb Amputation or Impairment*, published by the Veterans Administration, which provides valuable information about the biomechanical problems confronting athletes with disabilities as they engage in various activities as well as many clear, often dramatic, photographs that are motivational.

The International Directory of Recreation-Oriented Assistive Device Sources is a useful addition to professional libraries, particularly for those servicing rehabilitation training professionals. It demonstrates that a real world exists beyond the parallel bars and that people with amputations are entitled to enjoy themselves.

What To Expect When You Lose a Limb: A Guide for Patients Expecting or Having Recently Had an Amputation, by Roberto H. Barja and Richard A. Sherman. Washington, D.C.: U.S. Government Superintendent of Documents, 1985, 55 pp. Illustrated, paper.

Dr. Barja, Chief of Orthopedic Surgery, and Dr. Sherman, Chief of Psychophysiology, Eisenhower Army Medical Center, Fort Gordon, Georgia, have addressed a neglected facet of patient education, namely the fear-ridden pre- and postsurgical period.

The authors reason that a critical part of phantom limb pain treatment is prevention through education of amputees. The monograph is written as if it were a conversation between the reader and an informed, concerned, and optimistic mentor. The optimistic focus acts to reassure the potential patient that "...the better shape you were in prior to your amputation and the amount of will power and effort you put into your rehabilitation largely determines the actual extent of your recovery." Amputation level and quality of surgical, prosthetic, and rehabilitation management are critical components of recovery of function which are not directly evaluated.

The publication consists of nine chapters, including the history of amputation, pre-surgical hospital admission, surgery, healing and pain in the residual limb, phantom sensation, psychological reactions to the loss of a limb, rehabilitation, and a glossary pertinent to anesthesiology, surgery, and other technical fields. An extensive discussion of the psychological responses to limb loss supports a number of therapeutic modes. The authors suggest that giving the patient a preview of hospital procedures will allay some confusion and misinterpretation. Dr. Sherman has drawn from his extensive experience and research on phantom sensation to provide realistic guidance to this phase of patient reaction and care.

Sections covering preprosthetic and prosthetic rehabilitation are less detailed and contain proce-

dures considered to be outmoded or experimental. Although rigid dressing is included, primary emphasis is placed on the less accepted elastic bandages and shrinkers. The semirigid Unna dressing is omitted altogether, as are air splints. The prostheses that are illustrated and described are older and, in some instances, outdated models, such as SACH feet with laminated heel wedges, and rigid quadrilateral sockets on the above-knee prosthesis. The description of below- and above-knee prostheses in the appendix could have been updated and clarified, along with the listing of prosthetic feet, which includes the obsolete four-way design. The chart of prosthetic options for the upper limb could have been simplified and brought up-to-date. Also, given the rarity of cineplasty and Krukenberg procedures, these seem irrelevant to a basic monograph.

The authors have made a very necessary start on the topic of patient and family education by addressing concerns associated with the preoperative period, as well as postoperative and rehabilitative phases of amputee recovery of functions. However, they might develop more positive use of the mentor style to eliminate the word "stump," reinforcing self-esteem aspects of patient behavior established by the book in other sections. Future editions could include better quality drawings or photographs, as well. In spite of its inconsistencies, the book fills a need in patient and family education.

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