



Newsletter



Prosthetics and Orthotics Clinic

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Summer (Issued Quarterly)

The Nature of Orthotics Practice

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How typical is YOUR orthotics practice? How extensively are plastic orthoses being utilized? How many KAFO wearers utilize a knee lock, and what kind? Examining the experience of a larger number of certified orthotists regarding these and other prescription issues is a logical way to gain perspective on contemporary orthotics management. Some time ago New York University Post-Graduate Medical School conducted a pilot survey of approximately sixty orthotists who were attending several short-term courses. While the sample was small and drawn largely from the Eastern seaboard, the completed questionnaires revealed a number of interesting trends regarding patient population, orthotic designs, and materials.

Among the most important of the preliminary findings is the overwhelming predominance of lower limb orthotics (LLO) practice over spinal (SO) and upper limb (ULO) activities by a ratio of 5 to 1 to 1; the continued preference, although small, for metal rather than plastic materials, especially for LLO's. Lastly, middle aged adults with upper motor neuron disorders (stroke, etc.) constituted the largest single type of patients requiring services.

Population

Although orthotists reported that they treated substantial numbers of patients in all age brackets, about 55% of the individuals fitted were between 18 and 60 years of age. Of the remaining 45%, the proportion of children below 18 years exceeded that of older adults (over 60) by a third.

Patients presented a wide variety of disorders. Among LLO wearers, more than half had upper

motor neuropathies; approximately 30 percent had skeletal disorders, and the remaining 20 percent had lower motor neuron diseases. In contrast, the greatest number of ULO's were worn by persons with lower motor neuron lesions (42%), while the remaining individuals wearing ULO's experienced upper motor neuron and skeletal disorders in nearly equal numbers.

Materials

The great majority (80%) of orthotists responding used both metals and plastics in their LLO practice, however 10 percent stated that plastics constituted the primary or sole material in all LLO's they made, while the remaining 10 percent used metals only. Overall, the ratio of usage of aluminum to plastic to steel was 5 to 4 to 1.

Lower Limb Orthotic Designs

Among the lower limb devices fabricated, 63 percent were AFO's while 37 percent were HKAF0's, KAFO's, and KO's. Forty-six percent were unilateral AFO's and 25 percent were KAFO's applied unilaterally; 17 percent of the LLO were AFO's fitted bilaterally.

The solid stirrup was by far the most commonly used method of shoe attachment (42%), followed in turn by the split stirrup (20%), plastic shoe insert (18%), calipers (15%), and miscellaneous attachments (5%). About half of the LLO's prescribed permitted free or nearly free ankle motion of which 17 percent permitted free motion, and 37 percent utilized some form of motion assist, usually a coiled or wire spring. Approximately one-third of the ankle

components limited motion in some way with 27 percent of such appliances utilizing stops, and 10 percent consisting of solid ankles. Such diverse components as dual action assists and double axis joints accounted for 11 percent of the orthotic ankles.

In relation to specific AFO designs utilized, the most frequently identified were patellar tendon bearing, Denis Browne, posterior leaf spring (both Rancho polyethylene and TIRR polypropylene), VAPC shoe clasp and the NYU insert.

As regards orthoses encompassing the knee and/or the hip, a single axis joint with drop lock, (with or without spring loading) accounted for nearly 70 percent of knee controls provided. Cam and plunger locks were very seldom used and only 13 percent of the orthoses had free knee joints, including single axis as well as offset and polycentric types. Regarding hip joints, the number of free single and double axis joints far exceeded that of any locking hip joints.

Approximately half of the orthotists reported making fracture LLO's of one type or another. A third had fabricated both AK and BK fracture orthoses, while nearly 10 percent had made only BK fracture orthoses and 5 percent had fabricated AK designs exclusively.

As for other specific KO and KAFO designs, orthotists constructed knee cages and trilateral Legg-Perthe's orthoses most commonly.

Upper Limb Orthoses

While as indicated, the survey focussed on LLO practice, several interesting facts concerning ULO management also emerged. The most frequently prescribed ULO was the opponens orthosis (70%), while 19 percent were provided with prehension orthoses with about 21 percent of this number being fitted bilaterally. External power was employed in only 3 percent of the fittings reported.

Although these preliminary data indicate some interesting patterns there is no doubt that it is not possible, at the present time, to present a satisfactory overview of the nature of orthotics practice, with any degree of confidence. This fact presents particular problems for the educational institutions who are obliged to teach students those procedures and techniques which are most widely utilized by the practitioners. The same lack of information causes severe difficulties for potential researchers in relation to their ability to identify and undertake valuable and meaningful projects. Consequently there is a crying need for more comprehensive and reliable information than is presently available. We therefore propose to obtain such data from as many certified orthotics facilities in the country as possible. A revised questionnaire has been prepared which attempts to obtain the most important, precise information regarding lower limb orthotics practice.

We request that each certified facility complete the questionnaire on pp. 8-10. It should take no more than 15-20 minutes. Return the completed form to Prosthetics and Orthotics, NYU Post-Graduate Medical School, 317 East 34th St., New York, NY 10016, by Sept. 15, 1980. Obviously only one questionnaire for each facility should be submitted, since any duplicate returns would tend to unbalance the information gathered. Lastly, in order to identify regional differences and to permit the possibility of follow-up contacts, we ask that each return be identified. In order to avoid any possible intrusion on confidential business statistics please note that all of the requested information is only in percentages of total practice.

Following the necessary period of time to accumulate, tabulate and analyze the data, a report summarizing the results of the study will be published in a forthcoming issue of the Newsletter. At a later time similar surveys relating to spinal and upper limb practice will be undertaken.

¹New York University Post-Graduate Medical School

AAOP Seminar

MGM Grand Hotel, Las Vegas
October 30-November 1, 1980

For more information contact: John Billock, C.P.O.
Warren Orthotics and Prosthetics Restoration Laboratory
145 Shafer Drive, N.E.
Warren, Ohio 44484



Plastic Ankle-Foot Orthoses:

Indications and Functions

H. Richard Lehneis, Ph.D., C.P.O.

Prescription of plastic ankle-foot orthoses at the Institute of Rehabilitation Medicine, New York University Medical Center (IRM-NYUMC), has over approximately the past 12 years been based on the identification of a pathomechanical condition affecting the ankle-foot complex for the purpose of matching that condition with a biomechanical device (plastic ankle-

foot orthosis). Over the years, this basic system has been improved to include modifying factors such as spasticity and sensory status (Table I).

Table II represents an elaboration of the system in describing, in addition to indications, the biomechanical actions of each ankle-foot orthosis as well as contraindications. Each of the AFO's

described is shown in Figures 1 through 5.

Tables I and II have been used successfully in the training of physicians, orthotists, therapists, and other health-related personnel. We hope that the readers of the Newsletter find these tables useful in their respective clinics to clarify indications and contraindications for the various AFO's.

Table I

Pathomechanical Condition	Biomechanical Device	Degree of Spasticity	Sensory Deficit
Weakness or absence of dorsiflexors	Posterior Leaf-Spring	None to mild	Reduced without medio-lateral instability
Weakness or absence of dorsiflexors and plantar-flexors	Spiral	Mild to moderate	Reduced with valgus instability
Equinovarus with rotation of foot	Hemi-spiral	Moderate	Mild to moderate
Equinovarus without rotation of foot	Hemi-posterior Leaf-Spring	Moderate	Mild to moderate
Other: 1. Pain 2. Sensory deficit 3. Structural	Solid ankle	Severe	Severe

Criteria are based upon musculoskeletal and neurological determinations rather than etiology. Included are:

1. Deformity
2. Joint mobility
3. Contractures
4. Motor Power
5. Spasticity
6. Presence or absence of edema
7. Sensory abnormalities, particularly proprioceptive

Ankle-Foot Orthosis	Posterior Leaf-Spring	Hemi Posterior Leaf-Spring	Spiral	Hemi Spiral	Posterior Solid Ankle
Biomechanical Action	Prevents foot slap at heel strike. Assist toe clearance in swing phase.	Prevents foot slap at heel strike. Assist toe clearance in swing phase with control of inversion.	Prevents foot slap at heel strike. Assist toe clearance in swing phase and push-off in stance phase with control of inversion and eversion. Provides extension moment at knee to assist stability.	Prevents foot slap at heel strike. Assist toe clearance in swing phase with control of inversion.	Immobilize ankle in swing and stance phase.
Indications	Motor weakness of ankle dorsiflexors.	Motor weakness of ankle dorsiflexors and evectors w/mild to moderate lateral instability and tendency toward varus (without foot internal rotation component).	Motor weakness of ankle dorsiflexors and/or plantar flexors with moderate medial-lateral instability. Mild motor weakness of knee extensors.	Motor weakness of ankle dorsiflexors and evectors with moderate to severe lateral instability and/or strong tendency toward equinovarus; internal rotation of foot; moderate spasticity.	Structural collapse of foot-ankle; pain due to movement of ankle; severe spasticity with sustained clonus; severe sensory deficit.
Contraindications	Moderate to severe weakness of ankle plantar flexors. Inadequate knee strength Inadequate hip strength	Moderate to severe weakness of ankle plantar flexors. Inadequate knee strength Inadequate hip strength	Pronounced imbalance of forces acting on ankle-foot complex. Inadequate hip strength	Inadequate hip strength	Inadequate hip strength
1. Motor Power	Inadequate knee strength Inadequate hip strength	Inadequate knee strength Inadequate hip strength	Moderate to severe spasticity	Severe spasticity with sustained clonus	
2. Spasticity	Moderate to severe spasticity	Moderate to severe spasticity	Severe medio-lateral ankle instability	Valgus	
3. Joint Stability	Medio-lateral ankle instability with marked varus/valgus.	Valgus	Ankle dorsiflexion limited to < 90° Fixed deformity	Ankle dorsiflexion limited to < 90° Fixed deformity	Significant functional movement of ankle during gait.
4. Joint Mobility	Ankle dorsiflexion limited to < 90° Fixed deformity	Ankle dorsiflexion limited to < 90° Fixed deformity	Fluctuating edema	Fluctuating edema	Fluctuating edema
5. Volume Changes					



Figure 1. Posterior Leaf Spring Ankle Foot Orthosis.



Figure 2. Hemi Posterior Leaf Spring Ankle Foot Orthosis.

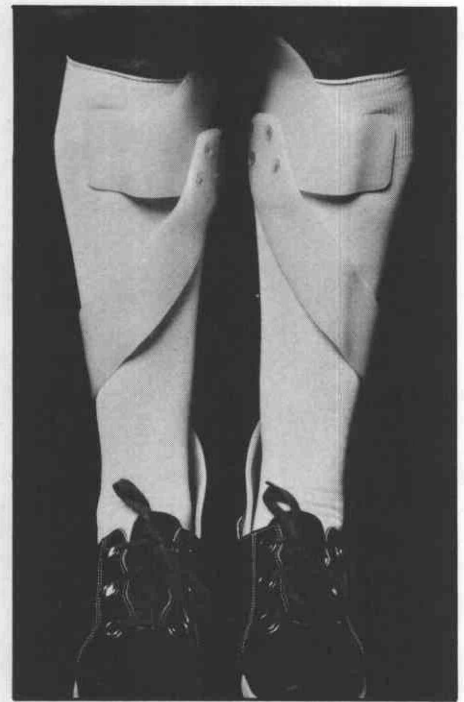


Figure 3. Spinal Ankle Foot Orthosis.



Figure 4. Hemi Spiral Ankle Foot Orthosis.

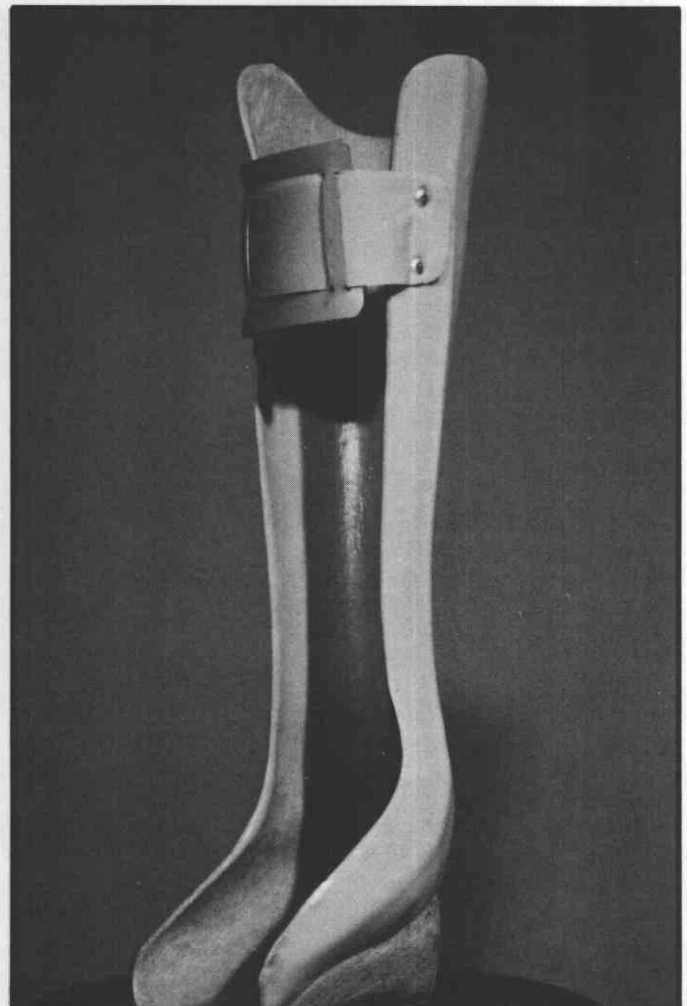


Figure 5. Posterior Solid Ankle Foot Orthosis.

“Building a Positive Self Image”

The Winter, 1979, issue of the Newsletter, Prosthetics and Orthotics Clinic, presented a questionnaire regarding psychological and behavioral characteristics of patients. The responses were excellent and remarkably similar.

All respondents said YES to the first question, asking, “Do some of your patients manifest behavior that indicates the presence of psychological problems?” Half of the respondents said that DEPRESSION was the most common form of expression. Other types of behavior cited include ANXIETY, FEAR and HOSTILITY.

Once again, all respondents were in agreement regarding Dr. Fishman’s statement that the psychological attributes of the patient exert a critical influence on the outcome of the prosthetic/orthotic restoration process. Ralph Juliano, Jr., C.P., had this to say, “If an orthosis/prosthesis fits both mind and body, you’ll see a higher degree of acceptance.”

The responses to the last question, “Do you attempt to modify your approach to accommodate variations in the behavior of your patients?” can best be summarized by this statement from Wade L. Barghausen, C.P.O., “There is no question, I do modify my approach and do respond to each patient’s individual situation. Obviously, with children a different approach must be used than with the geriatric adult patient. I believe the real successful prosthetist/orthotist must adapt to these situations as they present themselves.”

The results of this questionnaire are significant. They indicate that today’s practitioner must be perceptive enough to recognize psychological problems and must also be professional enough to deal with them individually and effectively.

• Letters To The Editor •

Dear Editor,

I applaud the *Newsletter* and the American Academy of Orthotists and Prosthetists for publishing the article by Mary Point Novotny and the editorial by Dr. Sidney Fishman and I can only add it’s about time.

I can reflect back 8 years ago when Mary and I were members of the Public Awareness Committee of the Midwest Chapter of the Academy. The fruitless purpose of that committee was to be active in the areas covered by both Mary and Dr. Fishman.

In November 1978 I was permitted a few minutes to address the Board of Directors of the American Academy of Orthotists and Prosthetists on the need, and I felt duty, of the prosthetist to become active in the psychological as well as the physical rehabilitation of the amputee. Passing the

buck on the psychological rehabilitation of the amputee has to stop somewhere.

I know that there are those who will argue that the prosthetist has not been trained in psychology and I agree that the majority of us have had limited courses on the subject. However, the prosthetist is probably the only member of the amputee clinic team that deals with the amputees 8 hours a day, 6 days a week, and this experience cannot be ignored.

One of the primary purposes of the Academy is education. We should not only educate ourselves in the area of psychological rehabilitation through presentations by people like Mary Novotny and Dr. Fishman, we must also help to educate the patient and society so that the patients we deal with will find entry back into the main

stream of life a lot easier. After all, isn’t that the goal of rehabilitation?

We call what we do as practitioners patient management, but how often do we fit the stump and forget that the patient is a human being? Understandably this can be very difficult to do when your waiting room is full and you’re overworked and understaffed.

I know there are a number of practitioners as well as physicians, surgeons and therapists who feel the same way I do. Thankfully, a few of these practitioners are members of the Board of Directors. As for the other practitioners, physicians, surgeons and therapists who actively participate in the psychological rehabilitation, I applaud their efforts and urge them to speak out and be heard.

Sincerely,
Alvin Pike, C.P.

To Fill a Void

A. Bennett Wilson, Jr.¹

I believe that everyone familiar with the recent history of prosthetics and orthotics will agree that the results of the research program in artificial limbs initiated in 1945 by the National Academy of Sciences at the instance of the Surgeon General of the Army has been very beneficial to amputees and to the prosthetists that serve them. Patients requiring orthopaedic bracing and orthotists have also benefited from this program, which has been supported from the beginning by the Veterans Administration and since about 1956 by the Department of Health, Education & Welfare. Yet for the first five years, or so, of the program, prosthetists and orthotists, not knowing how it would affect their "business," were quite wary of the government-supported research and development teams, and it was not an easy matter to induce practicing private prosthetists to attend the first series of formal education programs offered by the government at UCLA in 1953, even when their attendance was heavily subsidized.

Today, the prosthetics and orthotics education programs are considered by all to be essential to maintenance of a healthy prosthetics and orthotics service, and students pay substantial tuitions to obtain an education in this field. In recent years the AAOP has come forth with continuing education programs that are being improved steadily, and I am sure the younger practitioners probably find it difficult to imagine a world without formal education programs in prosthetics and orthotics.

Although the original purpose of the educational programs was to introduce to practitioners as soon as possible the results of research, the government agencies, for reasons known only to the bureaucrats involved, have in recent years essentially abandoned support of research in prosthetics and orthotics. A review of the latest issue of the *Bulletin of Prosthetics Research* (BPR #10-32) which contains progress reports on all of the research and development efforts in prosthetics and orthotics supported by the VA and DHEW indicates that less than a quarter of the projects devoted to "Rehabilitation Engineering" relate to prosthetics and orthotics. The percentage in terms of fiscal support is probably even less. This circumstance is reflected also in the source of manuscripts submitted to "Orthotics and Prosthetics." In the past, most of the articles were submitted by workers involved in government-supported research programs. Today, the majority of articles are being received from private practitioners.

Perhaps this is as it should be, even though medical research is heavily subsidized, and maybe the prosthetics and orthotics profession has grown to the point where it can assume the leadership in the research, development, evaluation, and education needed if it is to continue to provide the increasingly better services expected of professional groups.

In addition to the role of the AAOP in providing opportunities for continuing education, an encouraging signal seems to be coming recently through many of the manuscripts submitted to "O & P" in which practicing prosthetists and orthotists describe their own innovations. However, almost without exception, the authors include only their own experiences with patients, and it never fails to occur to me, as editor, what a pity it is that there exists no group to which these excellent ideas can be submitted for a non-biased evaluation conducted under typical clinical conditions, and thus, be channelled with confidence into the formal educational programs.

Even if the federal bureaucrats feel that research and development in prosthetics and orthotics is not important or glamorous enough for support, perhaps AAOP could persuade them that it would be in the public interest to support, at least partially, a clinical evaluation program to be conducted by the Academy. I am confident that Academy members will gladly cooperate by fitting patients on a controlled, experimental basis, and, thus, the government will need to support only staff, travel expenses, and in some instances the cost of materials and devices in connection with this much needed function.

If such a project is proposed, I recommend strongly that the universities and colleges offering educational programs in prosthetics and orthotics be given the opportunity to participate, for, in that way, any recommendation that a device or technique be added to their respective programs will come as no surprise, and therefore be accepted more readily.

¹Director, Rehab. Engineering Program, University of Texas Health Science Center at Dallas; Editor, O & P Journal

AAOP Round Up Seminar

Fontainebleau Hilton, Miami, Florida
January 27—February 1, 1981

For more information contact:
AAOP National Office,
1444 N Street, N.W.,
Washington, D.C. 20005

Survey of Lower Limb Orthotics Practice

Facility Name _____ Address _____ Date _____

Please answer all questions on the basis of experience in fitting orthoses DURING JAN. - JUNE 1980.
 Note: Replies to Questions IA, IIA, IIB, IIC-1, IID, IIE & IIF should each total 100%.

I. Orthotics Practice

- A. What percentage of your orthotics patients were provided with:
 Lower Limb Orthoses _____% Spinal Orthoses _____% Lower & Spinal Combined _____%
 Upper Limb Orthoses _____%

II. Lower Limb Orthotics (LLO)

- A. The age range of LLO patients varied as follows:
 Under 6 years _____% 6 - 20 years _____% 21 - 60 years _____% Over 60 years _____%
- B. The disorders among the LLO patients varied as follows:
 Musculo-skeletal (arthritis, dystrophies, fracture, hemophilia) _____%
 Lower motor neuron (polio, peripheral nerve lesion) _____%
 Upper motor neuron (stroke, cerebral palsy) _____%
- C. Please answer questions 1 through 4 carefully, considering each of the following categories:

	AFO	KAFO	KO	HKAFO	THKAFO	HO
1. Types of orthoses fitted:	-----%	-----%	-----%	-----%	-----%	-----%
2. Percentage of above fitted bilaterally:	-----%	-----%	-----%	-----%	-----%	-----%
3. List the 3 most frequently fitted orthoses (from listing on page 10):	a. _____ b. _____ c. _____	a. _____ b. _____ c. _____	a. _____ b. _____ c. _____	a. _____ b. _____ c. _____	a. _____ b. _____ c. _____	a. _____ b. _____ c. _____
4. List the 3 least frequently fitted orthoses (from listing on page 10):	a. _____ b. _____ c. _____	a. _____ b. _____ c. _____	a. _____ b. _____ c. _____	a. _____ b. _____ c. _____	a. _____ b. _____ c. _____	a. _____ b. _____ c. _____

Survey of Lower Limb Orthotics Practice (Continued)

D. AFO's (Ankle-Foot Orthoses)

1. *The primary characteristics of the AFO's fitted were:*

- _____ % Free dorsi and plantarflexion
- _____ % Assisted dorsi and/or plantarflexion
- _____ % Limited dorsi and/or plantarflexion
- _____ % No motion at ankle
- _____ % Other. Please specify: _____

2. *The materials used in the AFO's were:*

- _____ % Metal uprights with leather cuffs
- _____ % Plastic PLS (Specify plastics most frequently used): a. _____ b. _____
c. _____
- _____ % Metal uprights with plastic cuffs
- _____ % Other. Please specify: _____

E. KAFO's (Knee-Ankle-Foot Orthoses) and HKAFO's (Hip-Knee-Ankle-Foot Orthoses)

1. *The primary knee control offered by KAFO's and HKAFO were:*

- _____ % Valgum control
- _____ % Varum control
- _____ % Recurvatum control
- _____ % Flexion control
- _____ % Other. Please specify: _____

2. *The KAFO and HKAFO materials utilized were:*

- _____ % Metal uprights with leather cuffs
- _____ % Plastic (Specify plastics most frequently used): a. _____ b. _____
c. _____
- _____ % Metal and plastic
- _____ % Other. Please specify: _____

F. KO's (Knee Orthoses)

1. *The primary functions of the KO's were:*

- _____ % M-L control
- _____ % Recurvatum control
- _____ % M-L and extension control
- _____ % M-L extension and rotary control
- _____ % Other. Please specify: _____

G. Fracture Bracing (University of Miami or Rancho Los Amigos types)

1. *How many such orthoses have you fitted during the past 6 months?*
2. *How long after the initial injury were these fracture orthoses usually applied?*
3. *Do you use pre-fabricated or custom-molded components?*
4. *What materials (e.g., Orthoplast/Light cast/Aquaplast/polypropylene) do you prefer to use for these fracture braces?*

Tibial Fracture Femoral fracture

Types of Lower Limb Orthoses

AFO (Ankle-Foot Orthosis)

- 1.) Double Bar Metal
- 2.) Single Bar Metal (lateral or medial upright)
- 3.) PTB Weight-Bearing
- 4.) Plastic Posterior Leaf Spring (PLS)
- 5.) Shoe Clasp
- 6.) Spiral
- 7.) Hemispiral
- 8.) Plastic Solid Ankle
- 9.) Torsion Shaft (Below-Knee Twister Cable)
- 10.) Other (Specify)

KAFO (Knee-Ankle-Foot Orthosis)

- 1.) Single Bar Metal
- 2.) Double Bar Metal
- 3.) Double Bar Metal Quadrilateral Brim
- 4.) Double Bar Metal Ischial Ring
- 5.) Craig-Scott
- 6.) All-plastic KAFO
- 7.) Metal Joints, Metal Uprights, and Plastic Shells
- 8.) Other (Specify)

KO (Knee Orthosis)

- 1.) With metal knee joints (e.g. attached to elastic/corsets/plastic/leather/cuffs)
- 2.) Plastic Supracondylar knee orthosis (SKO)
- 3.) Supracondylar/Suprapatellar-Nitschke (SK/SP KO)
- 4.) Three-Way Knee Stabilizer (TKS)

- 5.) Lenox Hill Derotation Brace
- 6.) Other (Specify)

HKAFO (Hip-Knee-Ankle-Foot Orthosis)

- 1.) Double Bar Metal
- 2.) Single Bar Metal
- 3.) Metal Joints, Metal Uprights and Plastic Shells
- 4.) Torsion Shaft (Above-Knee Twister Cable)
- 5.) Other (Specify)

THKAFO (Trunk-Hip-Knee-Ankle-Foot Orthosis)

- 1.) Metal HKAFO with Spinal Attachment
- 2.) Parapodium
- 3.) Standing Brace
- 4.) Reciprocal Orthosis
- 5.) Orthowalk
- 6.) Other (Specify)

HO (Hip Orthosis) and Legg-Perthes Orthoses)

- 1.) Rancho Los Amigos Hip Control - Abduction orthosis
- 2.) Spreader Bar
- 3.) Pavlik Harness
- 4.) Legg-Perthes: Scottish Rite
- 4.) Legg-Perthes: Ilfeld Hip Abduction Orthosis
- 6.) Legg-Perthes: Trilateral
- 7.) Legg-Perthes: Toronto
- 8.) Other (Specify)

Meetings and Seminars

1980, September 15-19, AOPA National Assembly, New Orleans Marriott, New Orleans, Louisiana.

1980, September 17-19, Scoliosis Research Society, Annual Meeting, Chicago, Illinois. Allen S. Edmonson, M.D., Secretary, 869 Madison Ave., Memphis, Tennessee.

1980, September 28-October 4, Third World Congress (ISPO), Bologna, Italy.

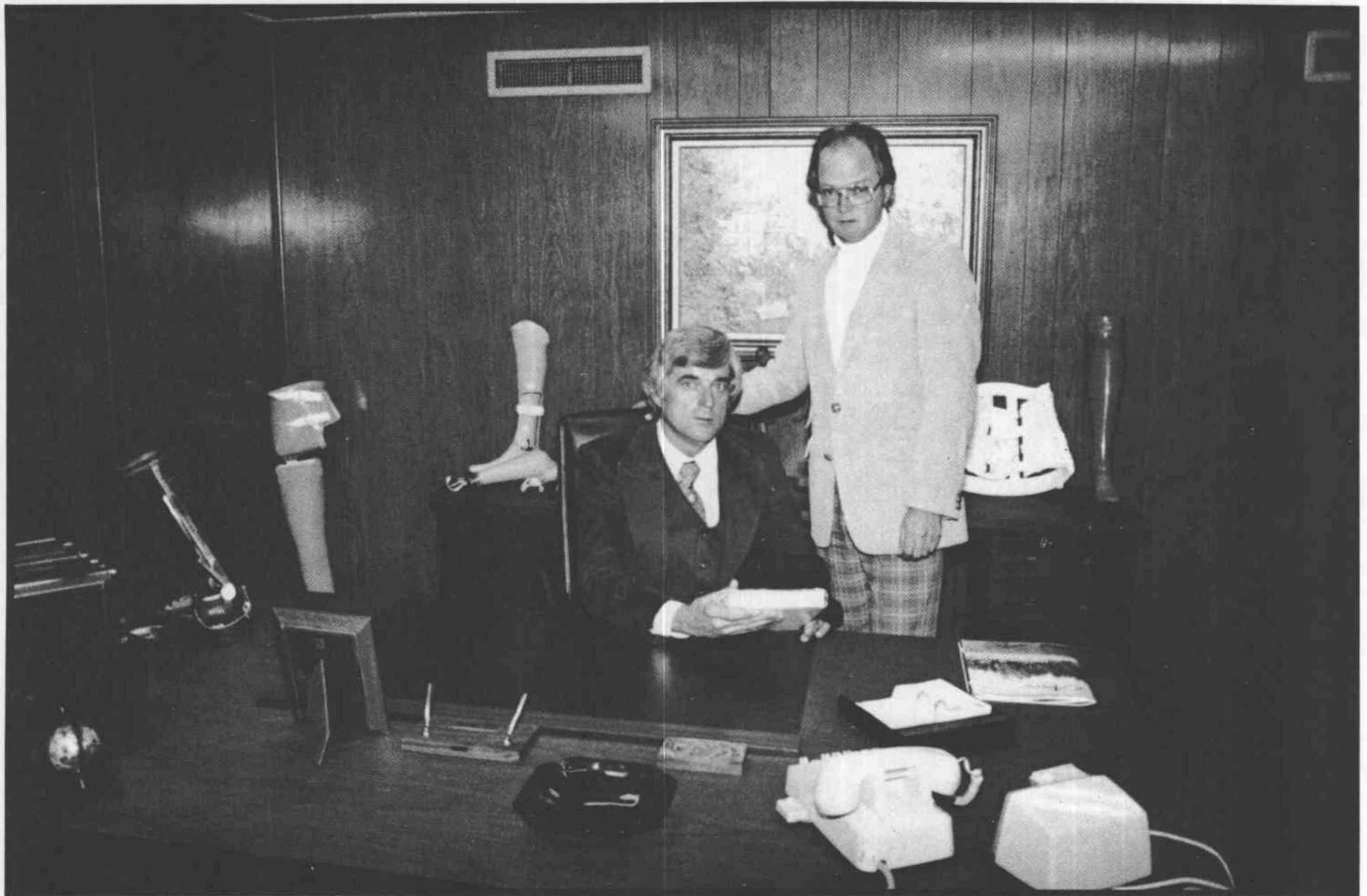
1980, October 3, Clinical Orthopaedic Society, Annual Meeting, Nashville, Tennessee. E.W. Johnson, M.D., Secretary-Treasurer, 200 First St., S.E., Rochester, Minnesota 55901.

1980, October 15-19, Eastern Orthopaedic Association, Annual Meeting, Cerramar Beach Hotel, Dorado Beach, Puerto Rico. E.F. Capella, Executive Secretary, C.M.A.A., Suite 3F, 301 S. Eighth St., Philadelphia, Pennsylvania 19106.

1980, October 30-November 1, AAOP Seminar, John Billock, Program Chairman, M.G.M. Grand Hotel, Las Vegas.

1981, January 27-February 1, AAOP Round Up Seminar, Fontainebleau Hilton, Miami, Florida.





President Bill Hamilton and Immediate Past President Bill Brady announce that the American Orthotic and Prosthetic Association has published a book entitled *Selected Reading—A Review of Orthotics and Prosthetics* which presents an outstanding review of orthotic and prosthetic procedures. Mr. Brady and Mr. Hamilton have announced that as a membership benefit each AOPA member will receive a free copy.

The American Orthotic and Prosthetic Association (AOPA), representing firms that manufacture and fit orthoses and prostheses (braces and artificial limbs), is publishing a book entitled *Selected Reading—A Review of Orthotics and Prosthetics*, to fill a long-standing need for a comprehensive orthotic and prosthetic reference. AOPA has recognized the needs of the orthotist, the prosthetist, and the entire rehabilitation clinic team regarding a good reference book.

Mr. Brady and Mr. Hamilton state that this book is the first of its kind and is not only a must for every orthotist and prosthetist, but also a requirement for the library of every medical doctor, physical therapist, occupational therapist and nurse who work with orthopedically handicapped.

The prosthetist is a key member of the rehabilitation team that returns an amputee to a productive life. The orthotist works with a similar team to do the same for the person requiring a supportive device.

"Reference texts are the foundation of every profession. Books like this are long overdue."
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"This anthology will be an invaluable resource to the many dedicated orthotists, prosthetists, therapists, and physicians."
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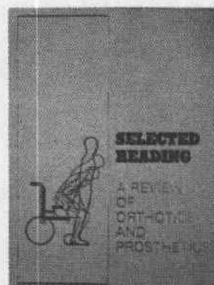
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