

# Newsletter



## Prosthetics and Orthotics Clinic

Vol. 4, No. 1 / 1980

Spring (Issued Quarterly)

### Prosthetics Up-Date 1980: *Foot and Knee Components*

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

This paper is, in part, based on a lecture given by the author at the International Congress on Technical Orthopedics, 1979, in Nurenburg, Germany.

The data relating to prosthetic foot and knee components was obtained from a survey of the relative sales volume of the various components by three of the largest U.S. distributors of prosthetics components from practically all manufacturers. The distributors cooperating in this were Knit Rite, Inc., Kansas City Missouri; Northeast Paramedical Industries, New York, New York; and Pel Supply Company, Cleveland, Ohio.

These firms were requested to provide the relative percentage of sales of the various foot (Table I) and knee components (Table II), rather than the absolute volume of sales. The table on knee components includes conventional versus modular constructions. The average percentages (mean) of the various prosthetic feet and knee components sold by the three firms are listed in the last columns of Tables I and II respectively. On the basis of these data, one may infer current prescription and fitting practices in the United States.

An attempt to get similar data on below-knee and above-knee suspension systems, based on the percentage of sales of supracondylar cuff, BK side joints, hip joints, suction socket valves, and Silesian belts, appeared not valid after analysing the data collected because of the

possibility of various combinations of suspension systems that may be prescribed and used. It is, therefore, hoped that readers of the Newsletter will return the questionnaire on Page 10 which addresses the subject of BK and AK sockets and suspension systems with due consideration of the various possibilities of combination of suspension systems.

#### Discussion

Referring to Table I, there appears to be a vastly increased use of SACH feet versus other types of prosthetic feet. This may be interpreted in terms of the far greater frequency in recent years of BK versus AK amputations due to improved surgical techniques. Although from the author's experience it appears that SACH feet are used to an increasing extent and with great frequency in AK prostheses. In Table II, one notes a surprisingly low use of hydraulic mechanisms, which may be interpreted in terms of the increase in the geriatric population which, in general, do not benefit as much as younger amputees from the hydraulic systems. Support for this interpretation may be viewed in the larger percentage of safety knees, and single-axis knees with knee lock used which total 66% of all knee units sold.

TABLE I

Prosthetic Foot Component	Percentage of each component supplied			Mean
	Supplier #1	Supplier #2	Supplier #3	
SACH	75	83	89	82
Articulated	23	12	8	14
Universal Ankle Joint	2	5	3	4

TABLE II

Percentage of each component supplied  
Supplier #1 Supplier #2 Supplier #3

Prosthetic Knee Component	#1	#2	#3	Mean
Manual knee locks:				
conventional	43	14	6	21
modular	5	9	5	6
Total	48	23	11	27
Safety knee:				
conventional	10	32	45	29
modular	5	15	10	10
Total	15	47	55	39
Polycentric:				
conventional	1	0	1	1
modular	1	1	0	1
Total	2	1	1	2
Free knees (friction controlled):				
conventional	2	8	21	10
modular	0	2	3	2
Total	2	10	24	12
Knees with extension assist:				
conventional	20	6	0	9
modular	5	2	3	3
Total	25	8	3	12
Hydraulic knees:				
conventional	7	9	6	7
modular	1	2	0	1
Total	8	11	6	8

## Guest Editorial

### *Of Prosthetics And 1980*

The survey of prosthetics components shown in this issue yields conclusions mostly related to above-knee amputees, as indicated in the text associated with Tables I and II. Fortunately more lower-limb amputations today are below-knee, so one really cannot tell much about trends in prosthetics practice from these data except to note that the SACH foot is indeed a success. This however should not make us complacent about this design, for

we should never be happy with anything that we have in prosthetics. Our objective should always be constant improvement.

As suggested, data are needed on below-knee fittings to give us a better impression of the state of lower-limb prosthetics today. Surveys of suppliers will show little; needed are data from the fitters of the country.

Many of you know that the support of the VA Research Program

of the University of California at Berkeley and San Francisco many years ago yielded the crucial biomechanical parameters in lower-limb amputee prosthetic service associated with fit and alignment. But never to be overlooked as very significant to service is the "tender loving care" and the training provided to the patient by the emphatic prosthetist. In any case, components although secondary are still important. But clearly

recognized is the need to get the prosthesis properly interfaced and the amputee motivated. Perhaps a survey covering rotators might produce helpful data about how these have been used to reduce fitting problems by the diminution in shear stresses.

The post-World War II education program has been primarily based on the teaching of the biomechanics and techniques of fit, those of alignment and to some extent but a lesser one, teaching about components. Even though these are of lesser importance, have we overlooked some essentials?

### **On Prosthetic Knees.**

We really don't fault the survey, but recognize its limitations. It nevertheless does show that for above-knee knee joints at least there may be some lapses in the teaching of prosthetists, in the teaching of other members of the clinic team and most importantly, in orienting the administrators representing third party payers. Perhaps the low number of hydraulic knees (as a %) can be attributed to the larger percentage of amputees who are geriatric. But aren't these supposed to be mostly below-knee amputees these days?

Not to be overlooked is the value of properly selected hydraulic knee mechanisms for certain cases. The selection of large numbers of "safety" knees is noted; but isn't it that clinic teams seem to get hooked on these, not trying others, or perhaps they have become disillusioned with price or maintenance burdens?

Today, the safety knee is the unit of choice but we wonder whether even these are being used properly. For example, are they in fact being used to exploit the value of the stance phase characteristics in initiation of swing phase? Are the alignments such that one provides more "trigger" for initiation of knee flexion?

The low numbers for polycentric knees bother us. If properly understood, some of the polycentric knee systems can be very beneficial in providing improved function to amputees with very short above-knee residual limbs and those with very weak hip musculature. How about their use in geriatrics?

Are indeed the polycentrics really understood? Are those that are being used being fitted and aligned properly? Do clinicians really understand the real values of the polycentric systems?

The system developed at the Orthopaedic Hospital, Copenhagen for example, can be used not only for end-bearing above-knee amputees but can also be applied for shorter amputation levels. The University of California at Berkeley is now developing other improvements in polycentric systems; we hope to see some of those soon presented through manufacturers.

Unfortunately we sense that clinics tend to adopt particular "pet" knee mechanisms or pet prescriptions. We worry that for various reasons (valid?) the full range of knee mechanisms has not been given a complete trial. Our publications have tried to get the information across about the pros and cons of each system. Perhaps we have failed.

For example, some of the rehabilitation achievements we have been able to make in our own clinic with the hydraulic knees are in fact extraordinary. Alongside the other important factors, the Mauch SNS in particular has been a boon to many of our above-knee amputees, particularly bilateral cases we have had from the Viet-Nam conflict and some Israeli cases from the October (Yom Kippur) War which were referred to us.

### **A Case in Point**

One interesting case from Viet-Nam, a bilateral above-knee amputee, not only now sky dives but snow skis and disco dances on his above-knee prostheses, both with SNSs. This gentleman has personal drive and motivation; he was an athlete before he was wounded, but now and this is important, he has been given the "tools" in those knee mechanisms: tools which can be used by him to achieve activity levels to which some of us nonamputees could aspire. Here, the SNS provided the wherewithal; matching these with the man's motivation and well-fitted sockets properly aligned, we were able to provide what can be considered a maximum degree of rehabilitation.

This is not an isolated case.

There have been many people fitted with the SNS and with others that are spin-offs of this design. We in the Veterans Administration put money into these developments, and we continue to purchase them because we have confidence in them. And our patients do. The problem is that others don't. Perhaps primary cost and maintenance experiences detract. But more so, other third party payers do not or cannot value these units as we do for our service-connected amputees who we believe deserve no less.

### **How about Modular Systems?**

We are concerned about the low percentage of modular systems used. Less than one in four are shown. But these, in this survey, are directly linked to above-knee and higher amputations. Again, the geriatric amputee experiences and thus the more common below-knee amputation levels are not reflected. For these, modular or endoskeletal systems may be used most commonly, more than the rugged, heavier crustacean systems of wood and the like. We hope at least that more and more lightweight below-knee prostheses either using endoskeletal systems or polypropylene would be used to the benefit of this group of amputees.

### **Finally, on Research and Development**

The component survey also doesn't really indicate anything about the needs for research and development. Inferred are some gaps in our link with the prosthetist and the clinic team mainly in the channels of information flow about all kinds of hardware. But one cannot draw too many conclusions.

We are pleased to inform you that the National Amputation Foundation with the assistance of Dr. Jerome Siller of New York University has now nearly completed for the VA Prosthetics Center a nation-wide survey of 900 service-connected veteran amputees. Provided from this survey will be data about prosthetic, medical, surgical, employment and psychosocial experiences and statuses of veterans from all wars since and including

World War II. We expect the investigators to give a report at the 1980 World Congress of ISPO to be held in Bologna, Italy. From this, we expect to have some significant directions for research and development.

On this matter of research and development, it seems to us that as soon as you become extremely successful with a particular item you might look at it again to see what you can do to improve on it. Besides more durable SACH feet more functional types of foot-ankle systems seem needed. Are there ways, for example of achieving the same function with less complexity than presented in the current "universal" ankle joints?

There appears to be no need to focus again on knee joint development; we would seriously worry about a further proliferation of new knee mechanisms. A few research groups are working on EMG control of valves on hydraulic knees, to produce voluntary control of knee function. This we can accept as long-range.

You should also know that Federal support of research and development in prosthetics and orthotics (our own Center's deemphasis is an example) has been decreased to some extent. We do assist in evaluations; we do a little bit of development, primarily as a result of case presentations in our clinics, but we offer no great effort in prosthetics and orthotics development at this time; we have diverted scarce resources to attack the problems of the very severely handicapped: the spinal cord injured, the blind, the non-vocal, and the cumbersome complexities of the debilitated aged.

So there'll be no mistake, know that we're still involved in prosthetics and orthotics, but we honestly believe that prosthetics and orthotics development has come a long way. We in the VA believe we have done much to contribute to this process, especially in funding projects around the country. We have also had our own laboratories involved. But now with a mature profession in place, these responsi-

bilities can be carried primarily by the professional with the Government only assisting when necessary. The manufacturers as a group are certainly participating in development, evaluation, and even in training. Outstanding examples are several in the United States and those from Europe who have done an extremely good job in making the quality and function of components of high quality. And the competition among them has been welcomed by us.

We think that the prosthetics (and orthotics) professional especially when it comes to process and device development is contributing enormously. Therefore the Government can turn its attention to that which the private sector cannot economically handle. But we always will be ready to help.

Anthony Staros  
Director, VA Prosthetics  
Center  
New York, N.Y. 10001

## AAOP Presidents Letter

I welcome this opportunity, as president of A.A.O.P. to write in the Academy Newsletter.

First, my congratulations to the editor, H. Richard Lehneis, and the Newsletter editorial board and staff for a fine job in developing a truly professional and informative publication. The Newsletter exemplifies the Academy's growth and maturity. Edited and published by academicians, with a completely orthotic-prosthetic format, open to technical and professional innovations and presentations as well as to inter-discipline dialogue, as has been recent issue content. I congratulate this and prompt future contributions from the rank of academicians.

Along with the Newsletter, the Academy Research program, the educational programs, and membership development, also parallel the Academy's growth and maturation.



Edward P. Van Hanswyk

We have reached a surprising level of development and maturity after only 10 years and should recognize our accomplishments.

The "Acrylic Latex Prosthetic Skin" Research Evaluation project,

a joint effort by the A.A.O.P. and the VA was conducted last year utilizing the facility and experience of the Academy. The product resulted in a complete evaluation of this technique through patient application and trial. The procedure has been written, published and presented for profession-wide consideration and use. As academicians we can be proud of this very successful initial effort.

The research evaluation committee has already submitted a proposal for a second A.A.O.P. - VA project, an evaluation of the "ultralight prosthesis," and this effort is expected to be more encompassing than the first.

The 1980 A.A.O.P. annual meeting and roundup seminar recently held in Newport Beach, California is an example of successful educational programming. The seminar was attended by over 250 participants and faculty, and was

by far our most successful meeting to date. Over 50 hours of continuing education presented at one meeting, a program so complete that it was impossible for any one individual to attend all the sessions. This Academy program was the most ambitious ever, and contained presentations by the Veterans Administration, the Heart Association, supplier members of A.O.P.A., physical and occupational therapists, orthotists, prosthetists, and physicians. A truly enjoyable professional experience and another indication of Academy growth and development.

Also, and I think the most significant of my experiences was to meet with and to talk to many of the participants in Newport. The chance to greet old personal friends

and past officers of the Academy allowed me a renewed realization of past A.A.O.P. accomplishments. But the opportunity to meet and to get to know the newer, younger academicians gave me an insight into the future of the Academy and its direction. The development of a truly professional association has attracted a serious group of young people who are better educated, professionally motivated and technically capable of continuing the leadership and direction successfully established in our first decade. I'm extremely confident in the realization that the hard work and vision of past leaders will perpetuate a new leadership increasingly more aware and capable of continuing the Academy's growth and development. Our past has been, and

the foundation is set, in my view our future is secure in the new academicians.

However, if I may I would urge you all, in developing your own philosophy regarding your Academy, to contemplate the past relative to the decisions made by prior Academy leaders and to programs developed, and to project the future with a view towards anticipating the type of Academy and programs you want. Each of us has this responsibility to our profession.

My thanks to the Newsletter for this opportunity to write.

My best wishes for continued editorial success.

Edward P. Van Hanswyk  
President, A.A.O.P.

# Prosthetic Knee Mechanisms

## *A Guide for the Prosthetist*

### Introduction

A function of the Veterans Administration Prosthetics Center (VAPC) is to assist VA Clinic Teams nationally in prescribing prosthetic devices, including, of course, prosthetic knees. Prescribing knee mechanisms, however, is a complex task because of the large variety available. Most often these devices differ not that much in function but in size, type of material used for the setup, and additional characteristics related more to assembly and installation processes than prescription rationales.

All too often clinicians prescribe either limited numbers or certain types of knee mechanisms found to be reliable in the past. Another inhibitor may be a lack of specific information on the full range and variety of all available systems. The clinician rarely has an opportunity to compare the relative merits of one knee with another.

In 1972, the Veterans Administration, through the Department of Medicine and Surgery, Washington, D.C., published a program Guide (M-2, part IX, G7) on "The Selection and Application of Prosthetic Knee Mechanisms." The guide was slightly modified and updated in 1976. A new Program Guide, reflecting developments of recent years and incorporating most commercially available knee mechanisms, will soon be published. This later Program Guide will provide a summary description of the various knee mechanisms thus far evaluated by the VAPC. It is intended to help maximize patient benefits.

### Description of Program Guide

The Program Guide comprises six sections: Knee Function, Definitions, Classification, General Requirements, Prescription of Prosthetic Knee Mechanisms, and Catalog of Knee Mechanisms.

1. **Knee Function:** Here are described the normal function of the anatomical knee, specifically the relationships of its various parts during the gait cycle, and alignment stability as a key factor in prosthetic fitting. Discussion centers on the TKA line relative to the center of the knee in maintaining stability during the stance phase. Understanding these relationships and utilizing the special features of knee mechanisms for the patient's benefit is an asset for the prosthetist. The Clinic Team thereupon must strive to provide the patient with the specific knee mechanism whose features most closely match his individual needs.
2. **Definitions:** Reference terms are given to describe the variety of knee functions.
3. **Classification:** A chart classifying all types of commercially available knee

mechanisms is provided. The chart shows functional criteria, specifically swing phase control and stance phase control. Additional topics in this section include extension aids, extension stops, mechanical locks, mechanical friction, and fluid resistance of hydraulic and pneumatic knees.

4. General Requirements: This section consists of a checklist on knee mechanism requirements.

5. Prescription: Prescription rationale is discussed, emphasizing the needs of the individual patient. Although the Program Guide concerns knee mechanisms, socket, shank, foot and suspension are also discussed to achieve the best type of prosthesis available. A chart shows the type of prosthesis best suited for different types of amputees. A classification chart of knee mechanisms is also included. To further assist the clinician, variations of basic prescriptions are given, i.e., for a short residual limb, a very long residual limb, and differences based on level of activity.

6. Catalogue of Knee Mechanisms: this section, the heart of the Program Guide, lists most commercially available knee mechanisms. Illustrations furnished by the manufacturers are included. A chart lists type of knee mechanisms, materials, exact dimensions, and types of control offered.

---

### Conclusions

The new Program Guide on "The Selection and Application of Prosthetic Knee Mechanisms," will be available on or about June 1, 1980. It should prove to be of significance to all clinic teams. To obtain a copy of this publication, please write to the Veterans Administration Prosthetics Center, Attention: Mr. Bert Goralnik, 252 Seventh Avenue, New York, New York 10001.

I wish to thank Mr. Max Nacht, Technical Writer/Editor, VA Prosthetics Center, for his aid in preparing this article.

by  
Bert Goralnik, C.P.

## Summary of responses to Newsletter

Prosthetics and Orthotics Clinic, Vol. 3, Nos. 2 and 3, 1979.

### "The Clinic Team"

The Summer, 1979, issue of the Newsletter presented a questionnaire asking, "Do you believe that the presently practiced and taught clinic-team concept meets all patients' needs?" This question was prompted by widespread opinion among practitioners who believe that traditional clinic team approaches do not effectively address the profound issues of the patients' problems. It is also believed that the privacy of the individual is not fully respected in most clinics.

The results of the questionnaire support these beliefs. The majority of the respondents indicated that they felt current clinic-team concepts do not meet all patients' needs. We welcome additional comments from you on this and other issues.

### "Checkout"

The Autumn, 1979, issue of the Newsletter asked for opinions in response to questions regarding checkout procedures and terminology. The responses were excellent in terms of numbers and quality. Three are printed in full in this issue.

Every respondent, except one, said they felt checkout procedures are NOT appropriate as presently practiced. The overwhelming majority also indicated their support for changing the term "Checkout" to something more professional such as "prosthetic evaluation," "patient functional evaluation" or "prosthetic followup evaluation." It is interesting to note that the word "evaluation" was used in each suggested revision. In general, it was agreed that the universities are

largely responsible for existing checkout procedures and terminology, and thus, appropriate changes should be initiated by them.

The more advanced institutions and facilities do not appear to have problems regarding checkout procedures. In fact, the checkout sheet seems to have been replaced in many instances by progressive clinic teams that utilize a more professional approach. Hopefully, this trend will continue to the point where it becomes the rule rather than the exception.

---

The Academy would like to thank all those readers who responded to previous Newsletter questionnaires. We would appreciate continued support.

---

# Letters to the Editor

Dear Editor:

I would like to comment on the article, "To Check Out or Not To" by Kurt Marschall, C.P.

My first reaction was one of mild perplexity since the situation as posed by Mr. Marschall is unfamiliar to me, based upon my experience at the Institute of Rehabilitation Medicine. It would be of interest to know whether he was describing a very common problem or one of only occasional occurrence.

In our setting, checkout is a very relaxed process based upon the mutual respect of all participants for each others areas of special knowledge and responsibility. We do not use a checkout sheet; it has never occurred to us to do so, probably because of an unspoken understanding that such a device is appropriate for the classroom but not for a sophisticated clinical process. As physician, I am obliged to assume final responsibility, and I may fulfill the role of arbiter in those situations which require it. I do not presume to know what the prosthetist-orthotist (P/O) knows and, therefore, look upon the whole process, including prescription and checkout, as a joint effort.

Mr. Marschall's article describes a situation in which the P/O is engaged in a competition with physician and physical therapist. Broadly speaking, I see no basis for such competition, though there may be specific situations where it exists because of personality and/or political reasons. If this is a common problem it won't be solved by scrapping a piece of paper called a checkout sheet. If some member of the clinical team has the desire and power to harass the P/O, it can be done without recourse to a piece of paper.

In my view, the solution to such a situation resides in two factors. The P/O must fight the political battle wherever it arises. Secondly, he/she must have greater confidence in the coming of age which Mr. Marschall proclaims for the speciality. Aside from the fact that the P/O is the one who fabricates the device, I could not function

without one in the management of patients. For me that is ample proof that your specialty has come of age. It should be proof enough for the P/O too.

John E. Sarno, M.D.  
Professor, Clinical Rehabilitation Medicine  
Institute of Rehabilitation Medicine

*Editor's Note: A similar opinion and experience has been expressed by Newton C. McCollough, III, M.D., Professor and Chairman, Department of Orthopedics and Rehabilitation, University of Miami.*

Dear Editor:

At the very least, I would say it is an interesting argument for the elimination of the checkout procedure. However, I think the author has overlooked one major consideration. While he may be quite an expert and all of his prostheses fill the prescription and fit the

patient, there are instances where this is not the case. Someone, other than the individual who made the limb, should make that determination. The physician is not always best suited to do this, especially from the point of view of time. The checkout procedure is valuable inasmuch as it insures that at least one individual will critically review the prosthesis to see if it meets criteria that had been collectively agreed upon by physicians, prosthetists and therapists, as being essential for the particular patient. Moreover, as a part of the checkout procedure the therapist gives the patient a rather detailed functional analysis of the limb. Further, the limb is tested under working conditions. Although many prosthetists will have the patient don the prosthesis in the shop, he usually walks back and forth once or twice and is released.

## Didactic P & O AAOP Seminar July 17-19, 1980

Sheraton Boston Hotel  
Prudential Center

**For Further Information Contact:**

AAOP  
1444 N St.  
Washington, DC 20005

## Letters to the Editor

I do not feel that most prosthetists feel professionally threatened by the checkout procedure and if shortcomings or imperfections are pointed out he will correct them without a loss of personal esteem, knowing that all efforts are being done in the best interest of the patient.

In short I sense a mild degree of paranoia here and while it may be justified in some circumstances, I think that in general the checkout procedure is not used to the disadvantage of the prosthetist but to the advantage of the patient.

Sincerely,

Charles H. Epps, Jr., M.D.  
Professor and Chief  
Division of Orthopaedic Surgery  
Howard University Hospital

Gentlemen:

I have read with interest and agreement the article by Kurt Marschall on the checkout of our service to the amputee by therapists and physicians who know little about the prosthetic fitting and rehabilitation of the amputee.

All of my colleagues have stories telling of therapists performing their art in ways which endanger the rehabilitation process and insisting their actions are correct since they know more about prosthetics than the prosthetist because they are therapists and attended one of the University 4-1/2 day courses.

But, how can we expect more respect if we allow such articles as the one by Lawrence W. Friedman, M.D., published in the Autumn issue of the Newsletter? This article shows a complete lack of understanding of what the duties and responsibilities of the certified prosthetist should be.

In my opinion, the amputee should be referred to the prosthetist with the same type of instructions and expectations of care as he would if the surgeon were referring him to a cardiologist for care of a heart problem. It is a reflection on the physician if he continues to

make referrals to any prosthetist or other physician if his patients are mishandled by the person to whom he is referring them.

The clinic team is also not always the answer either; especially if there is an in-house prosthetic facility, inadequacies in prosthetic care are often overlooked. A prosthetist in private practice is more likely to take an interest in proper fit and give the personal attention that the amputee needs for rehabilitation.

The suggestion that the amputee should be informed of prosthetic devices available does not make sense either since what is good for your friend may not be suited for your type of amputation at all.

In the past year I attended conferences given by our State Chapter of A.A.O.P., the A.O.P.A. National Assembly and the A.A.O.P. Round-up Seminar, and read whatever I could about prosthetics and orthotics. I am certainly not unique in my attempt to stay abreast of innovations in prosthetic and orthotic techniques; some of my colleagues spend even more of their time in continuing their education than I do. However, I must admit that as there are still physicians suggesting plug fit sockets, there are still prosthetists using antiquated procedures.

The physicians with whom I enjoy working are the ones that leave the type of prosthesis that is most suited to the individual amputee to my judgement. This is not the result of their lack of knowledge but the recognition of my expertise and experience in prosthetic rehabilitation. However, not all the physicians who refer patients to me would admit that someone other than himself has the knowledge and intelligence to do what will best suit the needs of his patient.

I apologize for dragging this comment out so long, but since I spend my full time coping with the problems of amputees, I feel very strongly that the prosthetist is the one most capable of planning and carrying out the rehabilitation of an amputee.

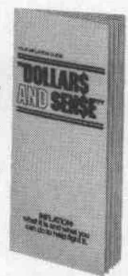
Yours very truly,

Robert B. Reid, C.P.O.

# DON'T LET INFLATION BLOW IT!



Use your  
**"Dollars and Sense"**  
Send for this free booklet,  
and information on how  
to obtain bulk copies.



George W. Hayden  
The Advertising Council  
825 Third Avenue, New York, N.Y. 10022

Please send me a free copy of "Dollars and Sense," and information for ordering bulk copies.

NAME \_\_\_\_\_

TITLE \_\_\_\_\_

ORGANIZATION \_\_\_\_\_

STREET \_\_\_\_\_

CITY \_\_\_\_\_

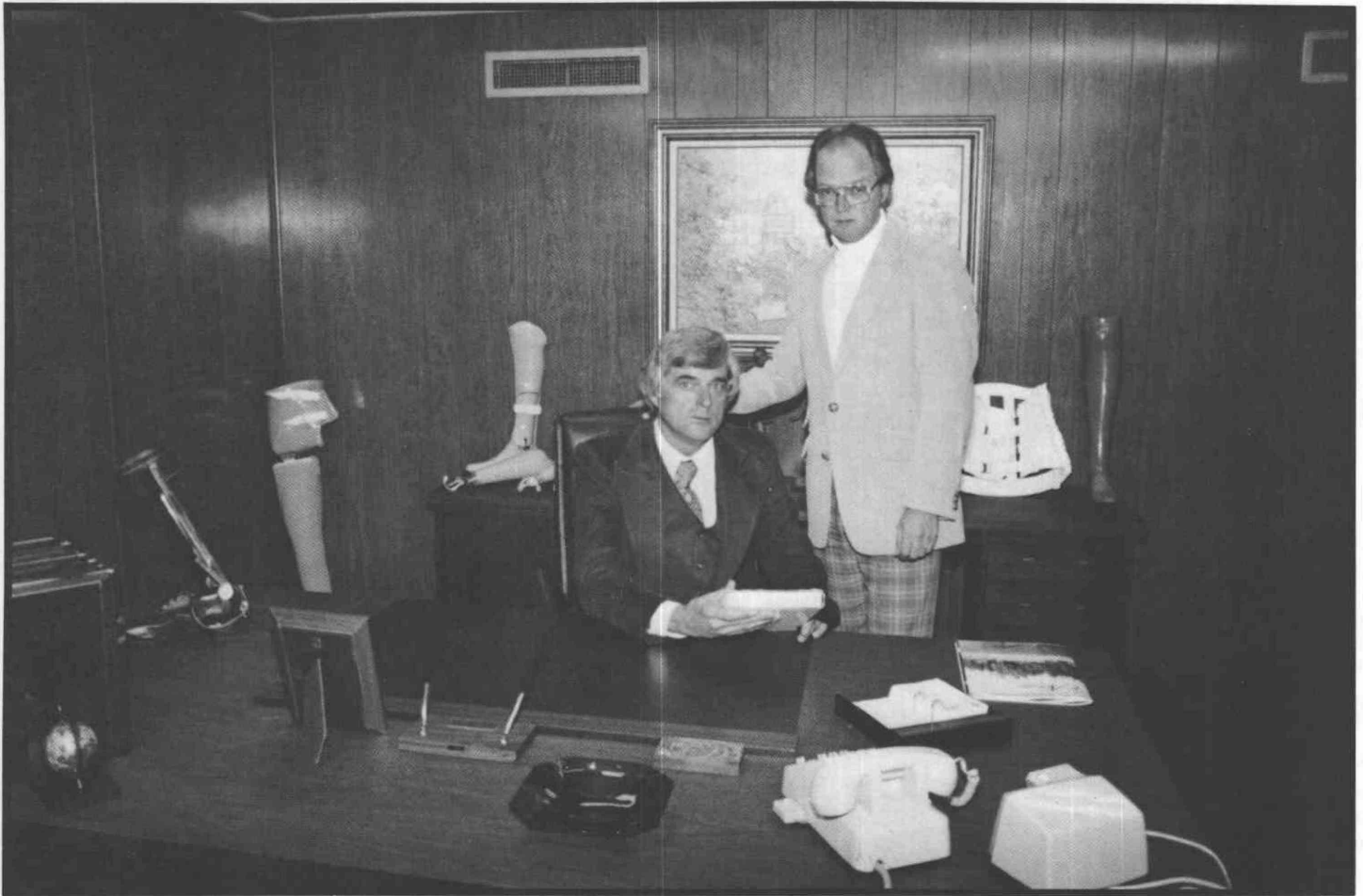
STATE \_\_\_\_\_ ZIP \_\_\_\_\_

SIGNATURE \_\_\_\_\_



A public service message of The Advertising Council  
and The U.S. Departments of Agriculture, Commerce,  
Labor and Treasury. Presented by this magazine.





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."*  
Ted Thranhardt, ABC President

*"This anthology will be an invaluable resource to the many dedicated orthotists, prosthetists, therapists, and physicians."*  
Michael Quigley, AAOP Past President

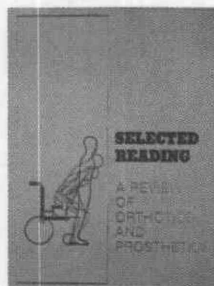
*\*Selected Reading—A Review of Orthotics and Prosthetics is a long needed reference book of orthotic and prosthetic procedures.*

*\*Essential reading for orthotists, prosthetists and every member of the rehabilitation clinic team working with the orthopedically handicapped.*

*\*Published by the American Orthotic and Prosthetic Association (AOPA) and endorsed by the Presidents of the American Board for Certification in orthotics and prosthetics and the American Academy of Orthotists and Prosthetists.*

*\*A must for every medical library.*

*\*Pre-publication price \$18.95  
Regular price \$22.50.*



Please send coupon and \$18.95 plus \$1.75 for handling and mailing to AOPA, 1444 N Street, N.W., Washington, D.C. 20005

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Orders for Pre-publication price must be postmarked by April 30, 1980. Orders postmarked after April 30, 1980 will be processed at Regular Price.

# QUESTIONNAIRE

Please indicate the percentage of your total fitting with each of the following BK and AK sockets and suspension systems.

## Prosthetic Suspension Systems

### I. Below-Knee

- A. P.T.B. supracondylar cuff \_\_\_\_\_
- B. P.T.B. supracondylar cuff with waist belt \_\_\_\_\_
- C. P.T.B. supracondylar cuff with waist belt and fork strap \_\_\_\_\_
- D. P.T.B. with thigh corset \_\_\_\_\_
- E. P.T.B. with thigh corset and waist belt \_\_\_\_\_
- F. P.T.B. with thigh corset, waist belt, and fork strap \_\_\_\_\_
- G. P.T.B. with medial wedge \_\_\_\_\_
- H. P.T.B. with removable medial wall \_\_\_\_\_
- I. P.T.B., supracondylar-suprapatellar \_\_\_\_\_
- J. Conventional BK (open end) with corset \_\_\_\_\_
- K. Conventional BK (open end) with corset and waist belt \_\_\_\_\_
- L. Conventional BK (open end) with corset, waist belt and fork strap \_\_\_\_\_
- M. Other (please list): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Total: 100%

### II. Above-Knee

- A. Total contact, suction socket \_\_\_\_\_
- B. Total contact, suction socket with Silesian belt \_\_\_\_\_
- C. Open-end suction socket \_\_\_\_\_
- D. Open-end suction socket with Silesian belt \_\_\_\_\_
- E. Total contact with hip joint and pelvic belt \_\_\_\_\_
- F. Total contact, semi-suction, with hip joint and pelvic belt \_\_\_\_\_
- G. Total contact, semi-suction, with Silesian belt \_\_\_\_\_
- H. Open-end, semi-suction, with Silesian belt \_\_\_\_\_
- I. Other (please list): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Total: 100%

Send responses to: Gary Fields, C.O.  
 Orthotics & Prosthetics  
 Institute of Rehabilitation Medicine  
 400 East 34 Street  
 New York, New York 10016

# Meetings and Seminars

1980, June 16-19, American Orthopaedic Association, Annual Meeting, Honolulu, Hawaii.

1980, June 16-20, Interagency Conference on Rehabilitation Engineering, Sheraton Center, Toronto, Canada.

1980, June 21-25, Association of Bone and Joint Surgeons, Annual Meeting, Durango, Colorado.

1980, June 22-27, World Congress of Rehabilitation, International Winnipeg Convention Center, Winnipeg, Canada.

1980, July 17-19, AAOP—Didactic P & O Seminar, Charles Dankmeyer, Program Chairman, Sheraton Boston Hotel, Prudential Center.

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

1980, September 17-19, Scoliosis Research Society, Annual Meeting, Chicago, Illinois.

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

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.

## INTERNATIONAL SOCIETY FOR PROSTHETICS AND ORTHOTICS Application for Election to Membership

I herewith apply for admission to the International Society for Prosthetics and Orthotics.

First Name(s): \_\_\_\_\_ Surname: \_\_\_\_\_

Native Language: \_\_\_\_\_

Date of Birth: \_\_\_\_\_ Second Language: \_\_\_\_\_

Address: \_\_\_\_\_

Country: \_\_\_\_\_

Profession:

( ) Physician or Surgeon ( ) Prosthetist or Orthotist ( ) Therapist

( ) Engineer ( ) P-O Technician ( ) Other (please detail)

Present Position: \_\_\_\_\_

Institution/Firm: \_\_\_\_\_

Length of Service: \_\_\_\_\_

Responsibility: \_\_\_\_\_

Qualifications

Degrees: \_\_\_\_\_

Membership of Other Professional Societies: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Please make checks payable to U.S. National Committee, ISPO

Mail Address: *Joan Edelstein*  
*New York University Post Graduate Medical School*  
*317 E. 34th Street*  
*New York, New York 10016*

## NEWSLETTER . . . Prosthetics and Orthotics Clinic

A quarterly publication providing the means for interdisciplinary discussion among physicians, therapists, and practitioners. Its eight pages contain important articles, spirited dialogue, and a sense of shared discovery, making it a valuable publication.

*Enclosed is my check for \$8.00 for a 1-year subscription to the Newsletter, Prosthetics and Orthotics Clinic. (Foreign Subscription Price is \$9.00.)*

Mail to:  
AAOP  
1444 N Street, N.W.  
Washington, D.C. 20005

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

## AAOP Newsletter Honorarium

Congratulations to Bert Goralnik for his outstanding article entitled, "Prosthetic Knee Mechanisms." He has been awarded the \$100.00 Newsletter Honorarium for the Spring Issue; however, Bert wishes that the money be donated in equal amounts to the American Cancer Society and the Muscular Dystrophy Association.

The AAOP Editorial Board will select the recipient of this award for every future issue of the *Newsletter*. You are invited to submit articles for consideration for future publications. All correspondence should be directed to AAOP *Newsletter*, c/o National Office, 1444 N St., N.W., Washington, D.C. 20005.

## The American Academy of Orthotists and Prosthetists

### Officers

**President:** Edward Van Hanswyk, C.O.  
*Syracuse, New York*

**President Elect:** Robert F. Hayes, C.P.  
*West Springfield, Massachusetts*

**Vice President:** Richard Lehneis, C.P.O.  
*New York, New York*

**Secretary-Treasurer:** Richard La Torre, C.P.  
*Schenectady, New York*

**Immediate-Past  
President:** Michael Quigley, C.P.O.  
*River Forest, Illinois*

### Directors

Gunter Gehl, C.P.  
*Chicago, Illinois*

Hugh Panton, C.P.O.  
*Orlando, Florida*

Wade Barghausen, C.P.O.  
*Columbus, Ohio*

Charles Dankmeyer, Jr., C.P.O.  
*Baltimore, Maryland*

**Executive Director**  
William L. McCulloch  
*Washington, D.C.*

***Newsletter* . . . Prosthetics and Orthotics Clinic**

**American Academy of Orthotists and Prosthetists**  
1444 N Street, N.W., Washington, D.C. 20005

SECOND CLASS  
POSTAGE PAID AT  
WASHINGTON, D.C.

**ADDRESS CORRECTION REQUESTED**