

Survey Results

Below are the summarized results of two questionnaires that appeared in recent issues of this publication. These results are important tools for observing, recording, and predicting trends within the Academy and the profession. Your responses are greatly appreciated, and we ask that you encourage your colleagues to send us their thoughts by answering the questionnaire in this issue (see p. 3), and those in future issues.

Scoliosis Orthoses

From the Summer, 1981 Issue, Vol. 5, No. 3

A total of six responses have been received. Two respondents were institutional facilities and the rest were private. The six reported fitting a total of about 757 patients last year, an average of about 126 per facility. The maximum was 400 patients and the minimum was 8. Not too surprisingly, the maximum was an institutional facility (Newington Children's Hospital). The most commonly prescribed orthosis was the Boston System, and among four of the respondents it accounted for the majority of orthoses fit. One individual reported that the Boston System accounted for 100% of orthoses he fit for scoliosis (actual number, 13); however, two of these orthoses had been modified by the addition of a super structure, and 3 with anterior uprights. Only one respondent reported using more than 50% conventional Milwaukee braces (60%) and this individual, practicing in the Southwest, stated that all had leather girdles as plastic girdles were too hot. He also reported using 35% Orthomedics SOS Systems, the only mention of this style orthosis in the survey.

Interestingly enough, one respondent reported that 36% of his scoliosis practice was comprised of Raney Flexion Jackets prescribed by a neurosurgeon for treatment of scoliosis and as positioning devices.

Only one respondent, Richard D. Koch, CO of University Hospital, Ann Arbor, Michigan, reported using a preponderance (90-95%) of custom molded TLSO Body Jackets and Low Profile Orthoses combined (actual numbers fit 120-125). The rest of his scoliosis practice was comprised of conventional Milwaukee braces. Mr. Koch comments:

"Through school clinics and early screening for scoliosis the range of curves have reduced in degree of their severity. Consequently, we find that TLSO Body Jackets and Low Profiles are in wider use than CTLSO's."

Newington Children's Hospital, mentioned earlier, reported using 75% Boston Systems and 25% custom molded TLSO's primarily for treatment of non-idiopathic scoliosis secondarily to paralytic diseases.

Results of the Survey Concerning Endoskeletal Prostheses

From the Winter, 1982 Issue, Vol. 6, No. 1

As of March 25, 1982: 27 responses . *

1. How many definitive endoskeletal prostheses does your facility fit a year?

Total of 1,814 fit, an average of 67 per respondee
Maximum of 380
Minimum of 0, second lowest 5

2. Indicate the percentages of the type fit.

While it is difficult to give precise figures, roughly speaking the same trend prevailed for all respondees. About 95-100% of Below-Knee prostheses fit were exoskeletal and 95-100% of Hip Disarticulation/Hemipelvectomy prostheses were endoskeletal. Above-Knee prostheses occupied some middle ground with many respondents reporting fitting more than 50% endoskeletal Above-Knee prostheses. Only four respondents reported fitting as many as 50% endoskeletal

Below-Knee prostheses. These four tended to be among the most frequent users of endoskeletal prostheses reporting 380, 170, 75, and 50 respectively.

3. Which Endoskeletal Prosthetic System was used most frequently?

Otto Bock 20
AFP 2
Both Otto Bock and AFP 2
Both Otto Bock and USMC 2
IPOS 1

4. Do you consider endoskeletal prosthetic systems light enough?

11 said yes
14 said no
1 said yes to AK's and no to BK's
1 said yes to AFP and USMC and no to Otto Bock

5. Do you consider them reliable enough?
 19 said yes, one of whom qualified his response by saying for adults and geriatrics only
 7 said no
 1 said yes and no
6. Are cosmetic covers and skins adequate?
 23 said no
 3 said yes, one qualified his answer by saying only the AFP system
 1 said yes and no
7. Do you consider it necessary to have full capability to modify alignment in definitive endoskeletal prostheses?
 11 said yes, one stating that the need for making changes in alignment as the patient's condition changed was an indication for prescribing an endoskeletal prostheses. One specified the use in temporary prostheses.
 1 stated that he considered it desirable early in the patient's progress and unnecessary late
 14 said no, one of whom indicated that he used the AFP system exclusively and revised 380 of them
 1 ambiguous
8. How often do you make changes in alignment?
 7 said never
 17 said occasionally, one of whom stated that he occasionally made changes early in the patient's progress and never in more advanced instances.
 3 said frequently. One was the individual in #7 who identified the need for alignment changes as an indication for prescribing an endoskeletal prosthesis.
9. Would you consider it satisfactory to trade alignment modification capability for lightness and durability?
 22 said yes, one of whom qualified his position by saying not at the expense of the ability to interchange components.
 5 said no
10. What changes would you like to see made?
 a. 11 specified improved cosmetic covers
 b. 4 specifically recommended a more durable cover at the knee, or a way to reinforce or prevent impingement at the knee.
 c. 3 recommended more work on hydraulic and pneumatic knee control units, one of whom mentioned a hydraulic foot.
 d. 2 mentioned a more secure system of maintaining alignment.
 e. 2 mentioned waterproof skin for covers
 One each:
 f. lighter safety knee
 g. improved strength
 h. easier to operate and more cosmetic knee lock
 i. interchangeability of knee units without necessity of altering pylon tube length.
- j. easier and better attachment of cover to foot and socket for improved cosmesis, yet allowing removal for adjustment of alignment.
 k. reduction in weight of single-axis feet and ankles
 l. modular, removable, hip joint and pelvic belt
 m. more versatile socket for geriatrics to accommodate weight fluctuation and vascular problems
 n. incorporation of cable systems in upper extremity prostheses.
 o. durable covers easily donned by the layman
 p. easier access to the adjustment screws on top of the foot of the Otto Bock system.
 q. "Covers such as those used on Hydra-Cadence, but they must look better and last longer. Preferably in assorted sizes."
 r. noise reduction (spring squeaks)
 s. system for small girls
11. Additional comments:
 a. "The Otto Bock System was the best of both worlds (lightweight and adjustable) until the alloys and tubing were changed for increased strength. A main selling point of the endoskeletal systems has always been improved cosmesis. This may be true for standing and during the first few months post-delivery. However, the common foam cover system deteriorates relatively rapidly—cuts, tears, folds, and compression of the foam remain common problems. Therefore, I feel the foam covers need refinement."
 b. "I want full adjustability while aligning. After alignment on definitive prostheses the adjustability doesn't have much value."
 c. "In regard to question #7. Depending on patient indications two systems would be desirable; one fully adjustable in terms of alignment, the other lighter and more reliable."
 d. "Most endoskeletal prostheses are for AK female amputees."
 e. "In reference to question #4 and #5 above, of course they could be more reliable and lightweight if they could redesign the system (Otto Bock, Ed's note). As it is, they are doing the best they can with what they have to work with (design)."
 f. "It is a good unit but needs improvement."
 g. "Endoskeletal is a poor excuse to charge more money. Shell replacement is too costly too soon. I'm afraid the dollar sign prevails and not the patient's welfare."
 h. "For below-knee amputees, I do not feel an endoskeletal system is any advantage. For the young, active above-knee amputee, the foam cover is not durable enough. For the hip disarticulation of any age, it is usually preferred, except in special cases."
 i. "The endoskeletal system should only be used in those cases where lightness is desired and where changes in alignment are anticipated."

Questionnaire Summary Comments

The article on endoskeletal prostheses provoked an astonishing and gratifying response, something of a record in size, in the recent history of this publication. A surprising total number of prostheses are reported fit, and endoskeletal prostheses occupy a significant total in many individuals' overall practice. In assessing the results of this survey, it would do well to bear in mind, however, that according to the statistics, we are primarily talking about prostheses for the higher levels (Above-Knee, Hip Disarticulation, and Hemipelvectomy) fabricated with Otto Bock components. This fact is particularly interesting when considered in light of the fact that below-knee amputees are undoubtedly far more common in most practices.

Despite the numbers fit, it is apparent that the respondents were less than totally satisfied with the components available. While somewhat ambivalent about weight, and in general satisfied as to reliability, they were almost unanimous in judging cosmetic covers inadequate.

Taking questions 7, 8, and 9 together, it would seem that most of the prosthetists replying would feel comfortable using an endoskeletal system that did not have full indwelling alignment capability if it were clearly superior in other aspects. This is noted in light of the preponderent use of Otto Bock endoskeletal components.

The written comments and suggestions for change are presented, with few exceptions, in toto to provide more than simple statistics, and some inkling of the thoughts of the respondents. Taken in conjunction with the rest of the survey, they should provide food for thought to all and stimulus to action for designers and manufacturers.

LETTER TO THE EDITOR

Dear Editor:

I like the new format for *Clinical Prosthetics and Orthotics*—C.P.O. (Spring, 1982, Vol. 6, No. 2). Dr. Murphy's article brought back many events that I experienced personally. Dr. Epps and Ben Wilson point out very clearly the challenge we all face for the near future.

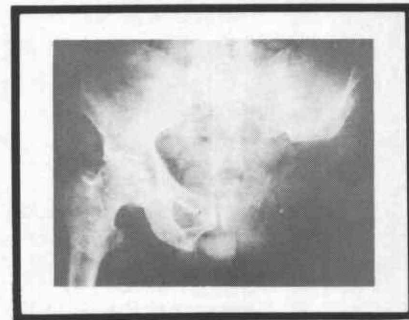
The education and R & D programs in prosthetics and orthotics in the last 30 years have improved the patient care and products fitted by members of our profession. I was proud to come into this profession in 1947, but I'm more proud today.

I volunteer our Winkley facility in Golden Valley for a private R & D project if the private funding can be found. Our facility is 12,600 sq. ft., has 19 patient treatment rooms (3 large walking rooms), and unused lab area.

Let me know.

Robert C. Gruman, CP
President, Winkley Orthopedic Laboratories
Golden Valley, MN

AAOP Brochure *Introduces Orthotics, Prosthetics To The General Public*



What are orthotics and prosthetics? Surprisingly or not so surprisingly many people do not know what these words mean or what is involved in the orthotic/prosthetic profession. To help inform the general public, the American Academy of Orthotists and Prosthetists has published a brochure which defines the terms and offers a description of the profession. The description includes a discussion of professional responsibilities of orthotists and prosthetists; educational and professional standards; and research in orthotics and prosthetics. The Brochure is available from the National Office for \$1.25 plus 75¢ handling for a total of \$2.00. Canada add an additional 75¢ and Foreign add an additional \$1.75. Please make your checks payable to AAOP.

Canada
Add Additional \$.75

Foreign
Add Additional \$1.75

Academy President Lehneis Makes TV, Lecture Appearances

Academy President Dr. H. Richard Lehneis, CPO added to his already busy schedule earlier this summer when he appeared on a nationally televised news program, and lectured as a visiting professor.

Aired on July 7, "The Freeman Report," an interview show on the Cable News Network, featured Dr. Lehneis as a guest. He spoke on prosthetics and bionics.

In May, Dr. Lehneis was honored by an appointment as a visiting professor at the Mayo Clinic in Rochester, Minnesota. His lecture topics included Advanced Lower Limb Orthotics, Prosthetics Management of the High Level Amputee, and Orthotics Management of Scoliosis, highlighting Biofeedback.