Survey: Current Orthotic Practices In Occupational Therapy

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INTRODUCTION

Occupational Therapists concern themselves with normal daily life tasks. When neurological orthopedic or developmental dysfunction impedes purposeful activity, occupational therapy attempts to eliminate the barrier and enhance performance. This process might involve construction of corrective or facilitative orthoses. But construction of orthoses constitute only one facet of the multiple roles an occupational therapist must fulfill. Orthotists are experts in the construction of all types of orthoses, as their sole role. In some instances, both professions are involved in providing similar services. The extent to which this is the case was one component of a survey to evaluate prevalent clinical practices in orthotics. Although the survey and article refers to orthotics in general, the major area of orthotics effected concerns the upper limb.

METHODOLOGY

A survey questionnaire designed to evaluate prevalent clinical practices in orthotics was mailed to centers offering affiliations in physical dysfunction to University fo Kansas seniors in occupational therapy. One-hundred and one centers in 25 states were sent surveys; 50 centers in 22 states returned completed surveys.³ While not geographically representative, the respondents were widely distributed.

This article will examine data collected related to; (1) use of materials, (2) frequency that various health professionals initially suggest, fabricate/fit, and collaborate on orthoses; (3) frequency that upper, lower and spinal orthoses are regularly constructed; (4) percentage of pre-fabricated orthoses utilized; (5) percentage of staff time devoted to orthotics. Additional information compiled by this survey, but not significant to this article include; types of affiliation offered; incidence of diagnostic treatment; and frequencies of specific antispasticity, contracture-reduction and fracture-bracing systems.

Frequencies and cross-tabulations were analyzed with the aid of Statistical Program for the Social Sciences (SPSS) batch system on Honeywell conversion. The term frequencies implies that similar types

43

of descriptive statistics are calculated. The term cross-tabulations relays a comparison of joint frequency distribution of two variables.⁴

RESULTS

The regularity with which different types of materials are used by occupational therapists is illustrated in Figure 1. Low temperature thermoplastics including Orthoplast/Polyflex and Polyform/Kaysplint are utilized most frequently in the construction of orthoses. Aquaplast, another low temperature thermoplastic, is utilized significantly less frequently. This may be due to its perceived short shelf life. High and medium temperature thermoplastics, as well as aluminum, spring steel, plaster and Plastazote are employed less often. However, it is important to note that roughly 80 percent of the responding therapists do utilize these advanced materials occasionally in orthotic construction.

The process of referral, evaluation, implementation and follow-up are central to the rehabilitation team model. Figures 2-4 denote the frequency with which responding therapists perceive themselves and other health professionals in the delivery of orthotic services. Figure 2 represents the frequency with which various professionals initially suggest orthotic treatment. Data gathered appears to reflect that occupational therapists and physicians are primary instigators of orthotic management for the upper limbs. Figure 3 indicates that occupational therapists identify themselves and orthotists as primarily responsible for the fabrication/fit of orthoses. This graph illustrates a sharp division among occupational therapists. Roughly half of those responding fabricate/fit 75% of the orthoses required by their institution; whereas, over one-third fabricate/fit less than 5%. Figure 4 represents how often professionals col-



----- ORTHOPLAST/POLYFLEX

PLASTER BANDAGE, SPRING STEEL

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44



| | NUMBER OF ORTHOSES* | 0 | 1-3 | 4-10 | 11-19 | OVER 20 |
|-------------------------------|---------------------------------|-----|-----|------|-------|---------|
| UPPER EXTREMITY | RESTING HAND ORTHOSES | 0% | 38% | 34% | 14% | 6% |
| | COCK-UP HAND ORTHOSES | 44% | 28% | 6% | 4% | 0% |
| | DYNAMIC HAND ORTHOSES | 8% | 4% | 20% | 46% | 12% |
| | TENODESIS HAND ORTHOSES | 42% | 34% | 6% | 4% | 0% |
| | OVERHEAD SLINGS | 26% | 16% | 30% | 12% | 4% |
| | ARM TROUGHS | 8% | 16% | 32% | 16% | 12% |
| | BALANCED FOREARM ORTHOSES | 42% | 20% | 26% | 2% | 0% |
| | DYNAMIC SUBLUXATION SLINGS | 38% | 28% | 12% | 2% | 2% |
| | CONVENTIONAL SUBLUXATION SLINGS | 44% | 20% | 8% | 4% | 8% |
| UPPER & LOWER EXTREMITY | ANTI-SPASTICITY ORTHOSES | 10% | 44% | 32% | 8% | 0% |
| | EDEMA CONTROL ELASTIC GARMENTS | 2% | 44% | 34% | 6% | 4% |
| | FRACTURE ORTHOSES | 44% | 26% | 12% | 0% | 2% |
| | CONTRACTURE REDUCTION ORTHOSES | 16% | 48% | 18% | 0% | 4% |
| LOWER EXTREMITY ORTHOSES | | 58% | 18% | 4% | 0% | 0% |
| | | 68% | 8% | 6% | 2% | 0% |

*FABRICATED/FIT BY RESPONDING THERAPISTS IN A TYPICAL MONTH.

FIGURE V

laborate in the process of delivery of orthotic services. This consultation could occur during referral, evaluation, fabrication/fit, check-out, training or follow-up. Orthotists are singularly absent from this graph. This lack of communication between professionals involved in the management of the orthotic client indicates that a potential exists for duplication of services, failure to provide services at all, or otherwise poorly coordinated services.

Figure 5 reflects the frequency that responding therapists construct upper, lower and spinal orthoses. Predictably, the greatest activity is related to the upper extremity. Approximately one-fifth are involved in spinal and lower limb orthotics. But a clear majority are regularly delivering orthotic services that encompass both upper and lower extremity.

More than half of the responding therapists utilize pre-fabricated orthoses less than 5 percent of the time (Fig. 6). In Figure 7 more than one-quarter of those answering indicated they spend more than half their time on orthotics. Cross-tabulations of this sub-group reveals a dramatic increase in the use of advanced materials, i.e., aluminum, high temperature thermoplastics, plaster and Plastazote, when compared to the overall survey. Similar significant gains occur in construction of spinal and lower extremity orthoses. Over 90% of this sub-group are involved in contracture-reduction, antispasticity, edema-control and fracture bracing. Only 8% regularly collaborate with orthotists.

DISCUSSION

It is readily apparent that this survey reflects only the perception of occupational therapists. Other health-care professionals might respond very differently to a similar questionnaire. The academic education for occupational therapists in orthotics is largely limited to low



FIGURE VI



FIGURE VII

temperature thermoplastics and the upper extremity.5,6,7 Yet clinicians in the field report significant involvement in a broad spectrum of orthotic materials and products. Obviously, of these skills are not acquired at the basic professional level, they are cultivated elsewhere. This learning process could occur through post-graduate courses, continuing education workshops or on-the-job training. Regardless, there is a potential possibility that a sub-specialty of occupational therapy is developing that parallels the role of the orthotist. The interrelationship of roles extends beyond the simplistic division of interim or definitive orthotics.

There are several possible explanations for this phenomenon. Most orthotists are independent and not directly linked to the staff of a particular institution. As such, contacts with any institution are limited to occasional clinics and consultations. While many referrals do pass directly to the orthotist from the physician, other health professionals who are intimately involved in implementing therapy may lack knowledge of an orthotists' skill.

The influence of third-party reimbursement may also contribute to the changing status quo. Selection of which professional provides orthotic services is often dependent upon the coverage of the client's particular policy. Plan A may reimburse therapy but not orthotic management. Plan B may cover both, but only under strict restrictions. The vast majority of medical insurance plans cover only the cost of the orthotic product and not related orthotic services. As such, orthotists are unable to charge for evaluation, training, and follow-up related to the orthotic process. Reimbursement is entirely dependent on delivery of an end-product. Thus, if the orthotist is financially inhibited from providing orthotic services, the staff occupational therapist may be called upon, not because the occupational therapist's are necessarily the most appropriate; but because they are readily accessible and have a basic knowledge of biomechanics,

materials, and fabrication techniques. Most importantly occupational therapists are reimbursed for services as well as the end-product.

CONCLUSION

Dramatic changes have altered the relationship between occupational therapists and orthotists. It is no longer appropriate to define roles in terms of interim vs. definititive or upper vs. lower orthotics. Additional research must be compiled before any meaningful delineation of roles can be ascertained. It is apparent that occupational therapists are being called upon to provide orthotic services they were not academically prepared to perform. Equally significant, due to the orthotic profession's detached status and the reimbursement system, orthotist's are not an integral part of the rehabilitation team. Some method must be found to bring these professionals in close collaboration with each other in the delivery of orthotic services. The potential development of competing, overlapping roles—which can only result in higher medical costs and increased confusion to the consumer-must be avoided.

Education in both fields needs to stress the unique skills both professions inherently offer. Increased emphasis must focus on regular collaboration between occupational therapists and orthotists. If orthotists are to retain a major role in upper limb orthotics, it may be necessary to

engage in aggressive efforts to establish collaborative and consultative relationships with occupational therapists. When occupational therapists receive referrals for lower limb or spinal orthoses, they should be encouraged to collaborate with orthotists. Orthotists need to increase their visibility at local institutions in clinical settings. A stronger interface between these related professions could also be promoted through joint workshops, research projects, inservices, publications and promotional displays. Progress in these critical areas of joint cooperation should alleviate the prospect of an increasingly competitive relationship.

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| tion of retur | ned surveys by : | state. | |
|---------------|------------------|--------|------|
| AZ-1 | ILL-3 | MINN-1 | WI-3 |
| CA-6 | IA-2 | MO-5 | |
| CO-1 | KS-5 | OH-1 | |
| CN-1 | NE-2 | OR-1 | |
| DC-1 | NJ-1 | TN-1 | |
| DEL-2 | NY-4 | TX-5 | |
| FL-3 | ND-1 | UTAH-1 | |
| | | | |

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