STAFF DEVELOPMENT
IN REHABILITATION TECHNOLOGY SERVICES

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INTRODUCTION

This paper addresses the professional background and development of individuals working in services of rehabilitation technology at Gillette Children's Hospital. Since the on-the-job training at Gillette is largely experiential, the working environment has a significant impact on the professional development of staff. For this reason, this paper also provides a brief overview of these services, their evolution, and organizational structure.

ORGANIZATIONAL STRUCTURE

Twenty-eight technical persons currently work in the Rehabilitation Technology Lab (RTL) of Gillette Children's Hospital. There are six sub-departments within RTL, as follows: Adaptive Equipment (5 persons), Rehabilitation Engineering (13), Siting Support Orthotics and Upper Limb Orthotics (4), Prosthetics (3), Spinal Orthotics (4), and Lower Limb Orthotics (9). Other positions are in an administrative category, including the Director, Administrative Secretary, Receptionist, and Orthotic Clinical Interns. Each of these sub-departments has a team leader, whose responsibilities include managing the work load, the personnel, and the financial matters of that sub-department.

It is extremely important to note that the rehabilitation technology services are provided in a collegiate atmosphere where clients are evaluated by an interdisciplinary team involving some combination of these professionals: physician, orthotist, prosthetist, rehab technologist, physical and occupational therapist, speech/languages pathologist, and psychologist. (Note: in this paper, the term "rehab technologist" is used to define a technical person working in rehab technology services who is not involved in the provision of typical orthotic or prosthetic services. Persons at all levels within the RTL, not just those with greater experience or leadership roles, interact with physicians, therapists, and other professionals.

EVOLUTION OF SERVICES

Services began approximately 50 years ago with traditional orthotics and prosthetics. In addition to keeping pace with developments in orthotics and prosthetics, the last 13 years have included the addition of newer rehab technology areas such as custom seating systems, mobility, and a wide variety of adaptive equipment. Evaluation programs have also been established in the areas of powered mobility, augmentative communication, and environmental controls.

The typical client population served at Gillette has evolved to include adults as well as children. The most common disabilities among clients receiving services are cerebral palsy and myelomeningocele, but also served are clients with spinal cord injury, brain injury, muscular dystrophy, and other neuromuscular disorders.

We have a method for consistent year-to-year monitoring of work volume that is independent of inflation. The measurement units of this method are called Units of Production (UP's). To describe the RTL work volume increase from 1976 to 1986, we can compare 3,816 UP's in 1976 to 10,818.5 UP's in 1986. The following chart further describes this growth.

A major factor contributing to growth in the RTL service volume is a gradual increase in awareness of services, both within Gillette itself and throughout the community among clients, their families, community residential facilities, school clinicians, and physicians. The addition of newer rehab technology services has also been a need expressed by clients and their caregivers.

RESNA 19th ANNUAL CONFERENCE SAN JOSE, CALIFORNIA 1987
STAFF DEVELOPMENT

The gradual development of other rehabilitation services has led to the creation of a number of new positions within the field of rehabilitation technology. These positions have emerged in response to the increasing need for professionals with specific skills and knowledge in the areas of assistive devices, orthotics, prosthetics, and other related fields.

TRAINING BACKGROUND

The diverse backgrounds of the professionals involved in rehabilitation technology within the BTL contribute significantly to the current high level of expertise and quality of their services. Persons working in rehabilitation technology come from educational and working backgrounds in areas such as design, traditional orthotics and prosthetics, classical engineering, robotics, engineering internship, speech and language pathology, machinist work, electronics, communication, and plastics technology.

When new personnel are added to the BTL staff, we are looking very closely for the new employees to have experience in rehabilitation technology, but are looking, instead, for potential. This potential is measured, as we are best able to read it, in their personality and intelligence. These traits, combined with the rich work experience at Gillette, have resulted in the high-quality staff currently employed. We also feel that the diversity of backgrounds is valuable for the realization of the high level of expertise and the bringing of creative solutions and experiences, which will enhance the high level of expertise and the bringing of creative solutions and experiences, which will enhance the total mix of personnel with traditional orthotics and prosthetics and other backgrounds has worked well.

ON-THE-JOB EXPERIENCE

The on-the-job training of all BTL staff in rehabilitation technology is one of the keys to their success. The significant number of clients served at Gillette and the high level of dissatisfaction with the level of service received by the client have facilitated this on-the-job training. A system of at least annual client visits gives rehabilitation technology personnel an invaluable opportunity to evaluate their work over time. The value of this follow-up is enormous, since it allows staff to learn from their mistakes and make appropriate design and fabrication improvements.

Historically, Gillette has emphasized medical education within BTL. The number of clients trained in BTL exceeds the number of employees by several orders of magnitude. The training of new employees is highly individualized and includes a combination of theoretical training and hands-on experience.

In conclusion, the BTL at Gillette has provided an excellent training ground for future rehabilitation technology professionals. The combination of theoretical instruction and hands-on experience has provided a strong foundation for the current staff. The ongoing emphasis on training and development will continue to ensure the continued success and growth of the BTL at Gillette.

RESNA 14th ANNUAL CONFERENCE
SAN JOSE, CALIFORNIA 1987
STAFF DEVELOPMENT

SUMMARY: Advantages and Disadvantages

We feel the approach outlined in this paper has been effective but also has some shortcomings. Advantages, in addition to those mentioned throughout this paper, include the non-transverse division of labor. This allows the HFT employees, from new technical persons with six months experience to team leaders with 10 or more years of experience, to all participate in the full range of service provision, including interviewing clients, device design, fabrication and fit. Another advantage is that learning in a real work situation and direct application of technology challenges people early in their careers and keeps them stimulated. In this environment people also develop a habit of designing and problem-solving quickly, which has a huge impact on the department’s financial performance.

A form of staff development which relies heavily on experience, however rich, tends to fall short in areas which typically require more formal instruction such as anatomy, engineering theory and analysis. These strengths must be obtained by other means. The experiential training can sometimes leave “gaps” since it relies upon the mix of work coming through the department which may be incomplete. This phenomenon depends upon the size of the facility and lessens as the department’s size increases. A larger facility allows the rehab technologist to see more each day and to benefit from the sharing of knowledge by more experienced professionals on how they have solved similar problems.

CLOSING

This paper attempts to present an overview of the professional development of individuals providing rehabilitation technology services at Gillette Children’s Hospital. A special thanks is extended to2 Jim Beery, Karen Boman, Mark Payette and David Wilkie for their contribution to this paper. For any further information, we welcome inquiries to:

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