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Introduction of Respiratory Therapy

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PROSTHETIC AND ORTHOTIC EDUCATION FOR PHYSICIANS AND PROSTHETISTS/ORTHOTISTS *

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Introduction

It has been a long time ago since human beings began to use some appliances to overcome the disability. When the time passed by, more and more devices were created to help the disabled that required particular persons who would indulge themselves in the manufacture of those appliances as a life-long career. Thus was the birth of a profession--Prosthetist and Orthotist.

Accompanying the rapid development of rehabilitation medicine after World War II, the prosthetic and orthotic equipments became more complex and sophisticated.

Therefore persons who deal with the devices, need more training to keep their knowledge up-to-date.

There are several problems surrounding the field of prosthetics and orthotics:

- 1) Prescription of those rehabilitation equipments to the disabled.
- 2) A series of manufacturing process.
- 3) Check-out system of the prescribed prosthesis and orthosis.
- 4) Training the recipients to use the devices properly.
- 5) Research to improve the materials and to develop new types of prostheses and orthoses.

It is generally accepted that physician, as a team leader, should be responsible for the prescription and share in part, the

responsibility of checking-out, training and research, while the prosthetist/orthotist should be responsible for the manufacturing, and share in part the responsibility of checking-out and research. Physical and occupational therapists are considered to be the right persons to carry on the training of recipients of the prosthesis/orthosis, and sometimes, also join the team of research. Therefore, the physician, prosthetist/orthotist, physical and occupational therapists are needed to be sufficiently educated to play their roles properly.

Prosthetic and Orthotic Education for Physicians

In general, the purpose of education for physicians can be divided into two steps:

- 1) Undergraduate education to all of the medical students about prosthetics and orthotics. As it is commonly expected that the physicians should be the health educator in the community and make a primary referral of the patients who need prosthetic and orthotic service to the proper place where they can get, the doctor-to-be should be sufficiently introduced the "common sense" about prosthetics and orthotics.

- 2) Post-graduate education to the selective groups of physicians. Again it should be divided into two groups: One for the

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doctors who will be in charge of prosthetic and orthotic clinic, and the other, for the doctors in related fields, such as orthopedist, neurosurgeon or plastic surgeon, about the knowledge what resources in prosthetics and orthotics they can expect for their patients before they plan the surgery.

Since 1968, the speaker first gave a lecture course about rehabilitation medicine in the Medical College of National Taiwan University. Now in the Republic of China, all seven medical schools have lecture course in rehabilitation medicine given to the medical students. In five of them, the course is compulsive. While in the rest of two, the course is selective. Although there is some different in the contents in different schools, most of the students are given two-hour introductory lectures about prosthetics and orthotics plus one hour lecture in the rehabilitation of amputees.

For post-graduate training, the resident physicians in the Department of Physical Medicine and Rehabilitation of National Taiwan University Hospital are given about 20 hours of more detailed knowledge in prosthetics and 10 hours in orthotics, in addition to clinical experience in the prosthetic and orthotic clinic once a week during their first-year residency. The clinic, as you well know, consists of physiatrist, prosthetist/orthotist, physical and occupational therapists. It provides the opportunity for discussion and demonstration, both for the service to the disabled and for the teaching to the staff and the students. Its value should not be under-estimated.

So far, there is no post-graduate course in prosthetics and orthotics given to the physicians in practice in my country. However, we accept young physicians in rehabilitation, orthopedic or general surgery from other hospitals to my department as

observer for a period of 2 to 3 months, join the clinic and the lecture course given for the resident.

Education in Prosthetists/Orthotists

The Republic of China in Taiwan had its first prosthetic and orthotic workshop in 1949 moved from Nan King. Subsequently some of its staff left and organized private workshops. Just about that time, the country was severely struck by the epidemic spreading of poliomyelitis. The demand for braces and other rehabilitation equipments increased day by day, that some of hard-ware factories were encouraged to change their business to produce orthoses. As a result, most of the staff in those workshops even knew nothing about the fundamental knowledge of orthotics.

The situation persisted till 1966, when Cheng-Hsin Rehabilitation Center, which was newly set by Madame Chiang Kai-shek, began to send its personnels to the Philippines for basic training in prosthetics and orthotics. The project was not very successful because of the handicapped of language of the trainees. Later in 1971, the National Taiwan University Hospital also sent a person to Japan for 6-month basic training. In 1970, WHO sent a consultant in prosthetics and orthotics, Mr. Benjamin Leano from the Philippines, who conducted two six-month basic courses for prosthetic and orthotic technicians at Cheng-Hsin Rehabilitation Center in 1970 and 1971, 17 and 8 trainees for each course respectively. In other words, the country was pushed one step forward in the aspect of prosthetics and orthotics around 1970.

In 1979, the International Prosthetic and Orthotic Training Center, after giving several courses in Hong-Kong, Vietnam and India, set up a branch in the Republic of

China for Asian and Pacific countries under the supervision of Mr. Juan Monros, sponsored by World Rehabilitation Fund. New York. Two courses, 25 weeks for each, have been conducted. The first course from February to June 1979 enrolled 19 students from 9 countries, 12 students in prosthetics and 7 in orthotics. The second course from September 1980 to February 1981, received 17 students from 4 countries in Asia, 10 students in prosthetics and 7 in orthotics.

Problems in the Education of Prosthetists/Orthotists

The country is now estimated to have about 80 prosthetists/prosthetic technicians and 100 orthotists/orthotic technicians currently working for about 25 workshops. Although some of them have had the basic course for a six-month training in general, is obviously insufficient. Those personnels,

quite different from the physicians, are far lower in educational background and poorer in foreign language that it is much difficult to send them abroad for advanced study.

Another problem is the "Brain drainage" to the developed country. We have trained two persons in prosthetics, one from the graduate of our P.T. school and the other from O.T. school, both own the Degree of Bachelor in Science. They were supposed to be the leaders of the group in future, however, lost into the United States, and probably never come back.

It seems that to set up a former 3 or 4-year course for prosthetists/orthotists, like the course of P.T. or O.T., is the best way to solve the problem in our country. Unfortunately, there are many problems which need to be solved before we can go ahead to set up such kind a course, and there is no sign that can be done in near future.

新專業的介紹——呼吸治療 Introduction of Respiratory Therapy

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呼吸治療在歐美成爲一種專業至少已有二十五年的歷史，在一九六八年以前，它被稱爲吸入治療（Inhalation Therapy），如今在醫療的領域裡，已漸奠定其地位和重要性。

根據美國呼吸治療學會（AART）的定義：呼吸治療爲一項有組織的醫療專業，在醫囑之下對於心肺功能缺損或異常者給予診斷、治療及照顧。各種醫療氣體的使用，濕氣、噴霧、噴藥、氧氣及呼吸器治療，呼吸道處理，心肺復甦術，床邊肺功能測驗及血液氣體分析，胸腔物理治療等，都是其工作的範圍，故急

性至挽救生命或慢性至改善病人呼吸功能，呼吸治療均佔有重要地位。

在復健醫學的領域中，神經肌肉性疾患（Neuro-Muscular Diseases）而致呼吸功能缺損及慢性阻塞性肺疾患（Chronic Obstructive Pulmonary Diseases）者需要呼吸治療；而短期或長期使用呼吸器（Ventilator）病人，如何防止其產生肌肉萎縮、關節攣縮或呼吸系統併發症，並提高生活的品質，亦需依賴完善的復健醫療，故提高對呼吸治療的認識，對復健工作人員及病人均有裨益。