

Easily opened windows and a built-in vacuum system and master control switches are energy saving features for everyone. Suitable furniture is also being shown.

A second project under way in cooperation with the New York Telephone Company is a series of telephone adaptations for various disability problems. New approaches are being worked out to holding receiver and dialing. Special solutions for the problems of the blind and those with partial loss of speech are also being considered.

As long as there are physical disabilities for which current medical practice can offer no cure, the possibilities of special equipment cannot be ignored. And with science continuing to make living better for everyone, the right of the disabled to greater and greater independence will receive increased recognition and attention. And, as in the past, the New York University Medical Center will continue its work to lighten the burden of the physically handicapped.

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## **BASIC TRAINING IN PROSTHETICS AND ORTHOTICS**



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In the shadow of Spain's Pyrenees Mountains, in the Burmese jungle heat, and a few kilometers from the famed Jaffa orange trees of Israel, men of unique skills are doing a humane work which, until recently, was never seen in those parts of the world.

To their doors come the victims of accident and disease whose disabilities require brace and artificial limbs if they are to walk, work, and lead reasonably normal lives again.

These ministrators to the handicapped are among the first prosthetists and orthotists in their countries. In Spain, 33-year old Juan Monros is

fitting and making of arms, legs, and braces for the people of his country. In Burma, U. Thein Thwin, an orthotist of greater seriousness than his 35 years would suggest, is making braces for the people of his country. On the eastern shore of the Mediterranean, Bruce Jacobson, a certified prosthetist, is working with a team of doctors to return as many handicapped people as possible to Israel's limited labor force.

These three men, and others who are working throughout the United States and on five continents, have one thing in common: their training. Through the cooperation of the American Orthotics and Prosthetics Association, the World Rehabilitation Fund and, more recently, New York University, they received their training in the Prosthetic and Orthotic Laboratories of the Institute for the Crippled and Disabled.

This unique training program, the only one of its kind in the world, owes its start to the pressing needs of a dedicated man who, in 1951, was doing what he could to help the crippled and disabled victims of the conflict in Korea. One-armed Dr. Reuben Torrey, a Presbyterian missionary with the National Council of the Churches of Christ, had been called from retirement to help meet the urgent needs of the people of war-ravaged Korea. Dr. Torrey knew these people's problems from first-hand experience. He had become an amputee while working in China during World War II.

But the impossibility of doing something to help the maimed and the crippled of Korea did not become fully apparent to him until he had visited the country and found out how little there was to work with. There were no materials, money, buildings, facilities and, most important, no trained personnel to do the job.

To others the situation might have seemed hopeless, but not to Dr. Torrey. He quickly returned to the United States and made his way to the Institute for the Crippled and Disabled. Dr. Torrey knew the Institute well. He had seen it pioneer modern rehabilitation from modest beginnings in 1917 to become one of the world's largest treatment and training centers for the disabled. He knew that in its multi-phased program which serves all types of disability, he could find the advice, the guidance, and the know-how which would prepare him and his staff for the job he had to do. The Institute had long since determined how to integrate a brace and limb shop into a comprehensive program which includes outpatient medical services, vocational rehabilitation, and social adjustment techniques.

Willis C. Gorthy, the Institute's Director, put the full facilities of the comprehensive rehabilitation center at Dr. Torrey's disposal. Lists of necessary equipment were worked up for Dr. Torrey and the items procured. Arrangements were made for a continuous flow of supplies and equipment to Dr. Torrey's first brace and limb center which was then being built in Seoul, Korea.

Arrangements also were made to train two of Dr. Torrey's young men, Dean Schowengerdt and Paul Kingsbury, as prosthetists. Schowengerdt and Kingsbury were to work alongside the certified technicians in the Institute's Prosthetic and Orthotic shops. They were to receive necessary instruction in anatomy, physiology, and rehabilitation techniques. A 10-month course was mapped out for the two men which, when completed, would enable them to begin at once to make and fit limbs for the Koreans. A secondary objective of the course was to enable them to train native Koreans as brace and limb makers.

In June, 1952, Schowengerdt and Kingsbury returned to Korea. Their work was cut out for them. Dr. Torrey established additional limb and brace centers in Chongju and Taejon. His assistants quickly recruited a

group of young handicapped Koreans who seemed to have the abilities and technical aptitudes required for brace and limb making. Training programs were set up. So successful was the program that by December, 1953, Dr. Torrey was able to report that more than 200 limbs had been made in the three shops, another 50 were under construction, and a satisfactory quality level had been achieved.

The work of Dr. Torrey and his assistants quickly became known in other parts of the world suffering from shortages of brace and limb makers. Requests began to pour into the Institute for the Crippled and Disabled, asking that training programs like those for Dr. Torrey's men be established for others who might become prosthetists and orthotists. The appeals came from The Netherlands, Argentina, France, the Philippines, Thailand, Puerto Rico, and from all parts of the United States. It became obvious that there was a crying need for a training program which would give basic academic knowledge, clinical experience, and bench work training to young men with no experience or background whatsoever in this type of work.



Fitting this bi-lateral amputee youngster with prostheses was part of the prosthetics training which Walter H. Caleson, right, received at the Institute for the Crippled and Disabled. Mr. Martin Durec, instructor, is at the left.

The Institute for the Crippled and Disabled utilized its experience with Dr. Torrey's group to develop a training program along these lines. With the enthusiastic acknowledgment of AOPA's Glenn Jackson, the support of the World Rehabilitation Fund's Dr. Howard Rusk, assistance from the faculty of Columbia University's College of Physicians and Surgeons, and the burning of much midnight oil by the Institute for the Crippled and Disabled's staff, a nine-month intensive training program was developed.

The first course got under way in September, 1955. Each year since then, the training for prosthetists and orthotists has been refined and expanded to keep pace with the needs of enrollees.

Budding prosthetists and orthotists receive the same basic instruction. Here they are acquainted with the history of orthotic and prosthetic devices, mechanical aids for the disabled, how to set up a laboratory, purchasing procedures for brace and limb shop operation, safety and maintenance tech-

niques, the use of bench tools and power machinery, and the anatomy of disability.

The enrollees also are given a comprehensive orientation on how other aspects of rehabilitation for the disabled fit in with the work they are doing. In this phase of their instruction, they learn how physiology applies to their work and are given some instruction in the psychology of the disabled. Physical evaluation for the selection of appliances, ethical and professional relations, and seminars on rehabilitation techniques round out the basic curriculum. All told, seven weeks of the nine-month course are spent in this training phase.

The specialized prosthetist and orthotist bench training gets under way as soon as the course begins. In both areas, enrollees gain experience through actual work in the use of materials, in measuring and fitting, in plaster techniques, leather work, actual construction of devices and the use of prefabricated parts. Orthotist trainees are given a familiarization course in ambulatory techniques, and prosthetic trainees receive special instruction in gait training.

Throughout their training, enrollees work under the close personal supervision of the certified brace and limb makers who staff the Institute for the Crippled and Disabled's Prosthetic and Orthotic Laboratories. Chief Orthotist Stephen Hall supervises training in his area. Martin Durec and Robert Mitchell, the Institute's Chief Prosthetists, jointly manage training in limb making.

Since the Institute's professional affiliation with New York University in 1958, faculty members of the University's Prosthetic Education Department of the Post-Graduate Medical School, under the direction of Dr. Sidney Fishman, assist in instructing the trainees.

As they near the completion of the course, the trainees make field visits to major hospitals and other institutions in and near New York City to see how prosthetists and orthotists work under a wide range of clinical situations. Among the institutions visited are Dr. Henry Kessler's famed institute in West Orange, New Jersey, New York City's Bellevue Hospital where Dr. Allen Russek's Amputee Clinic is located, and the Columbia Presbyterian Medical Center.

A unique facet of the course is a series of regular visits to the Veterans Administration Prosthetics Center in New York City. Here, over a six-week period, they observe all phases of equipping seriously disabled veterans with the prostheses and orthotic devices they require.

During the past two years, the Institute for the Crippled and Disabled has been receiving an increasing number of requests to train young men for the American brace and limb field. As a result, current enrollment is about evenly divided between U.S. citizens and men from foreign countries. Enrollees from the continental U.S. are being trained to take their places in existing prosthetic and orthotic facilities where their training can continue under the supervision of certified technicians with long experience. The training which these young men receive helps to prepare them for the examinations of the American Board for Certification in Orthotics and Prosthetics. Thus, the American brace and limb field receives a steady flow of adequately trained young people who will help to maintain the high standards which the industry has set for itself.