

EUROPEAN PROSTHETIC TRIP

Report of JERRY LEAVY, Vice President, A. J. Hosmer Corp.

Early in 1959 after receiving a few inquiries from persons in the prosthetics field in Europe, it was decided that a representative of Hosmer-Dorrance would make a trip in August 1959, for two reasons:

1. To visit, discuss and study the methods of fabrication and various types of prosthetic component parts and devices used in Europe for upper extremity amputees.

2. To attend the International course on prosthetics held at Copenhagen, Denmark the latter part of July and the first part of August, 1959.

My wife, Pearl, and I departed from Los Angeles at midnight on July 29, for a one-stop flight to Copenhagen, Denmark. It later turned out to be a two-stop flight after engine failure 550 miles at sea forced us to make an emergency landing at a Greenland Air Force base.

The 12 hours' delay while another plane was flown in, proved to be an eventful experience with daylight being present during the night and a very cold night sleeping in the aircraft. Off to Copenhagen the next morning in our replaced aircraft and after an uneventful but interesting flight to Copenhagen we found, upon checking into our hotel, a few familiar faces from the States. There were Col. M. J. Fletcher, Director of Army Prosthetic Research Laboratory, Washington, D. C., Capt. T. J. Canty, Director of Prosthetics, Oak Knoll Hospital, Oakland, California, Professor Charles Radcliffe, Prosthetics Research, University of Calif., Berkeley, Calif. and our other long time friend, William Tosberg, Director of Prosthetics at NYU, Bellevue, New York City, N. Y.

The International course on prosthetics being held at the Copenhagen Orthopedic Hospital was well attended. Students from 18 countries were enrolled. Many variations of ideas, along with numerous prosthetic items both lower and upper extremity, were presented before the group with discussions following.

To mention one or two of these, the German method of vacuum system in plastic fabrication was very impressive and stimulated us enough to cause us to purchase a complete unit from Germany for use in Hosmer's fabricating department.

The German technique of fitting the plastic socket to the stump and trimming the socket shell on the below elbow stump differs from our method in this country in that the cutaway or trim line around the biceps tendon area is very slight and in general they "harness" the condyle area for positive gripping of the socket when applying a load at the terminal end. This, of course, does not permit full 135° forearm flexion as we strive for in our check-out program. However, on the other hand, although they are limited to great degrees of forearm flexion they do gain the maximum utility when it comes to "heavy duty" performance with this type fitting.

SACH feet, adjustable walking legs, alignment jigs and other techniques presented by the U. S. instructors at times faced "lifted eyebrows" when demonstrated for the class. However, in the expert guidance of Professor Radcliffe of the University of California, Berkeley, the application and demonstration soon had its effect on most viewers and later on in the halls many inquiries were being made and notes being tabulated as to how, why, where and when this information can be made available.

After spending most of the week attending the classes in Copenhagen, we journeyed on to Stockholm, Sweden to visit prosthetic facilities and

gave a demonstration before a group of Swedish prosthetic experts on the American type upper extremity prosthesis.

A wonderful flight in the new French Caravel jet rushed us into Germany with stops at Hamburg, Hannover, Duderstadt, Heidelberg and Frankfurt, where a general tour of prosthetic facilities in the institutions was made.

One of our most interesting visits in Germany was to Duderstadt and the Otto Bock Company where we were guests of Mr. and Mrs. Max Nader, director of the Bock Company. The Naders extended wonderful hospitality and made our two-day visit with them a most enjoyable one that shall long be remembered.

The Otto Bock factory has a very well arranged, modern and efficient plant producing the popularly known Otto Bock knee and AK set-up. Many aspects of manufacturing and producing prosthetic parts were viewed with great interest. Many of the methods were similar to ours in this country.

A prearranged visit to Zurich, Switzerland with Mr. Ernst Rutschi, president of the Swiss Orthopedic & Limb Mfg. Assoc., followed with a discussion and demonstration before a group of orthopedic surgeons, prosthetists, orthotists, therapists and others was invaluable from the standpoint of warm praise given us for the American type upper extremity prosthesis. The number of arm amputees in Switzerland of course is very small due to the size of the country and its peaceful history.

From Zurich to Paris, France, Brussels and Antwerp, Belgium and on into Holland where our continued travels took us to various prosthetic facilities and institutions.

Our next and last stop was in London, England where a very interesting three days were spent visiting "Steeper & Company" at Queen Mary's Roehampton Hospital. We enjoyed our visits and discussions with the arm training department, physical therapy department, research and development group and others within the prosthetic organization at Queen Mary's Hospital.

The "Steeper," our hosts, were most gracious in showing us their complete factory and operation in the manufacturing of component parts and devices for upper extremity prosthesis.

The English-type of upper extremity prosthesis differs from those in the United States. The English manufacturers for the most part use leather for their sockets in place of plastics. For common everyday wear, most arm amputees use passive hands with moveable thumbs and leather gloves.

In place of the common utility hook seen in this country, the English arm amputee is furnished with numerous "quick change" devices that can be interchanged at the wrist and for such items as hammers, pliers, chisels and dozens of other items too numerous to mention. The type of working tools to interchange in and out of the prosthesis depends of course entirely on the particular amputee's vocation or avocation.

To sum up observations on the European trip, we were impressed by the fact that arm amputees wore prostheses primarily for cosmetic purposes on the street since almost no hooks are ever seen or worn in public. Many European arm amputees were seen on the streets without any sign of a prosthesis, as was true in our country only a few years back.

As a result of the acquaintances made during this trip, we hope and we look forward to a better understanding between the countries involved with an exchange of ideas, leading to continued improvement in prosthetic parts and devices and methods of manufacture.