

MISSION TO WARSAW

In November, 1964 a technical mission was undertaken to Warsaw, Poland for consultation with Dr. Marian A. Weiss regarding techniques involved in immediate post-surgical application of prostheses. The mission was composed of Dr. Ernest M. Burgess, Dr. Robert L. Romano, and Mr. Joseph E. Traub of the Prosthetics Research Study in Seattle, Washington, a project supported by the Veterans Administration.

We are pleased to reprint the report (without color photographs) submitted by this team to the Vocational Rehabilitation Administration and the Veterans Administration.

THE EDITORS

At the request of Dr. Robert E. Stewart, Director, Prosthetic and Sensory Aids Service of the Veterans Administration, The Prosthetics Research Study was organized in Seattle, Washington under the direction of Ernest M. Burgess, M.D. during the spring of 1964. This research team was assigned the task of evaluating, and if possible, perfecting the technique of immediate post-surgical prosthetic fitting as advanced by Marian A. Weiss, M.D., Director, Konstancin Rehabilitation Center, Warsaw, Poland. Since, in the fall of 1963, Dr. Weiss had visited several of the prosthetic research centers in the United States to discuss his technique, a decision was made to proceed with the technique as outlined by Weiss. However, it was also recommended that after some months of experience, an American surgical-prosthetic team should visit Dr. Weiss at Konstancin for the purpose of coordinating activity. As a result, the Prosthetics Research Study team, between May 1st and November 1, 1964, conducted a controlled clinical series of sixteen (16) immediate post-surgical fittings utilizing the principles and technique outlined by Weiss. The surgery and prosthetic care were carefully documented in each case and a good deal of knowledge and experience was accumulated. The variety of diagnoses in these sixteen cases was wide, covering almost completely the clinical field of amputation surgery as we know it in the United States today.

During the month of August of 1964, an evaluation team from the United States visited Dr. Weiss at Konstancin. This team consisted of Mr. Anthony Staros, Chief of the Veterans Administration Prosthetics Center, New York; Mr. Henry Gardner, Assistant to the Chief of the Veterans Administration Prosthetics Center in New York; and Mr. A. Ben-

net Wilson, Technical Director of the Committee on Prosthetic Research and Development of the National Academy of Sciences, Washington, D.C. Upon their return to the United States, this evaluation team recommended that the surgical-prosthetic team of the Prosthetics Research Study make the trip to Konstancin as soon as possible to work with Dr. Weiss in order that better coordination of efforts be realized. Accordingly, the Vocational Rehabilitation Administration was asked to support a technical mission to Warsaw that would allow the Konstancin team and the Seattle team to work closely together. It was anticipated that this direct observation and collaboration would permit both research groups to more promptly and efficiently direct studies and develop practical techniques for widespread acceptance and use. This request was readily accepted by the Vocational Rehabilitation Administration and the costs of transportation and per diem for the team were defrayed by the use of United States Counterpart Funds in Poland. With the cooperation of the Vocational Rehabilitation Administration and the Veterans Administration, the surgical-prosthetic team of the Prosthetics Research Study consisting of Ernest M. Burgess, M.D., Robert L. Romano, M.D., and Joseph E. Traub, C.P., left Washington, D.C. on November 10, 1964 to consult with Dr. Weiss at Konstancin. All members of this team were working at Konstancin with Dr. Weiss until November 20, 1964; Mr. Traub stayed on through November 27th to assist Dr. Weiss conduct a nationwide course in Prosthetics and Orthotics.

An excellent and well organized schedule had been arranged by Dr. Weiss and his associates. This schedule included a complete review of facilities and of all aspects of the medical program at the Konstancin Center. Additional team visits, also arranged by Dr. Weiss, included the clinics and operative theater of Professor Gruca, University of Warsaw and the Polish State Prosthetic Orthopedic factory at Cracow, Poland.

During our stay at Konstancin, we were able to observe two amputations of the lower extremity, one above-knee and one below-knee; in both instances Dr. Weiss himself conducted the surgery and applied the casts to the amputation stumps. Both surgical procedures were of the osteomyoplasty type with the opposing muscles sutured through the bone and with a periosteal flap covering the bone ends. According to Weiss (and we tend to agree), this method maintains muscular and neurological continuity which is of great physiological and psychological benefit to the amputee. This concept purports that when the muscles transected in an amputation are reattached under the proper tension during surgery, they will remain active (even in below-knee amputations) thereby allowing more contact between stump and socket but the maintenance of intact nerve supply will provide the amputee a greater sense of proprioception through the well-fitted prosthesis. Thus far, this osteo-myoplastic technique in amputation surgery has not been well received in the United States.

It is our feeling, however, after much discussion with Dr. Weiss and others, that the potential benefits involved make it necessary to consider this procedure as the one of choice if at all possible.

The Seattle team was able to observe through the initial fourteen post-operative days, both of these amputations including surgery, ambulation the first post-surgical day and all subsequent days, cast removal, suture removal, etc. These observations have all been recorded photographically in color and copies of these color slides are being included as a supplement to this report. It should be noted that the photographs showing the stump at the time of original cast removal (four days post-operative) indicate a tendency toward skin ischemia. We feel, as does Dr. Weiss, this may be the result of excessive tension on the skin sutures caused by a combination of tight closure surgically and the formation of edema within the open end split cast socket. However, after a few sutures had been removed and the stump confined in a true total contact cast socket with definite distal pressures, the ischemia gradually subsided and good primary healing was being accomplished. It is our feeling that considerably more research must be undertaken on tissue tension in order to provide the optimum stump for management by the immediate post-surgical prosthetic fitting technique.

In addition, it was our privilege to evaluate ten more patients who had been treated by immediate post-surgical prosthetic fitting. In each instance, we were able to see amputees with excellent stumps and with little or no phantom sensation. The duration of time from surgery varied from four weeks to one year. Five of these patients had been fitted with permanent prostheses which were crude in their construction and in which were found some alignment and fitting difficulties.

Regarding the work in immediate post-surgical prosthetic fitting as conducted by Dr. Weiss, it is our considered opinion that he has initiated what well may, after further evaluation and development, prove to be a revolutionary advance in the amputation-prosthetic field. His concept is based on a broad approach to rehabilitation; pre-operative social, psychological and physical evaluation; surgery designed to incorporate accepted principles with new attention to the neuro-physiology and biophysics of the stump; immediate prosthetic fitting and progressive ambulation uninterrupted to maximum recovery.

The major deficiency noted was one of the prosthetic management. Dr. Weiss critically lacks well-trained prosthetists and modern components, a fact which he readily admits and is attempting to correct as quickly as possible. As part of his attempt to improve prosthetic management at Konstancin and throughout Poland, he had organized a two-week course in the principles of prosthetics and orthotics for Orthopedic Surgeons and Prosthetists-Orthotists from throughout the Polish State including his full staff at Konstancin. This course was scheduled to coincide with our visit

and we were privileged to be able to present lectures and lecture demonstrations on all phases of the subject matter to the group. In fact, Mr. Traub stayed on at Konstancin for an additional eight days to assist Dr. Weiss in the conduct of this course. In addition, the American team brought to Dr. Weiss, as teaching aids to be left at Konstancin for future use, approximately \$2,500.00 worth of modern prosthetic components, equipment, and materials as a gift.

At present, Dr. Weiss is concerned about the quality of prosthetic work at Konstancin. As he explained, he has attempted to organize a working arrangement with the State centers for prosthetics-orthotics in Warsaw, Cracow, and Poznan, but he has not been successful. The primary reason for the failure of this organizational venture has been the distances involved, as he has great need for on-the-spot assistance. Although he has not given up this attempt at cooperative effort, his need for immediate service has prompted him to begin planning a new and modern prosthetic facility at Konstancin to be opened sometime in 1965. His greatest difficulty will be in assembling a well trained, qualified prosthetic-orthotic research staff as these personnel are rare in Poland as no training program exists.

We would like to recommend:

1. Continued support of Dr. Weiss' project at Konstancin, both economic and technical.
2. Selection of a qualified (English speaking) team from Konstancin consisting of a surgeon and prosthetist to be brought to the United States for a six month training program in modern prosthetics.
3. Dr. Weiss be requested to visit the United States in January, 1966 for presentation to the American Academy of Orthopedic Surgeons in collaboration with the Seattle team, the then accepted technique of immediate post-surgical prosthetic fitting, and his concepts of "Applied Surgery in Rehabilitation."

It is appropriate that we comment on the warm hospitality and professional consideration shown us by Dr. Weiss, Professor Gruca and others in Poland associated with our visit. The Konstancin Center under Dr. Weiss' dynamic leadership is becoming one of the great and progressive rehabilitation facilities in the world today. We anticipate a continued flow of productive information from this source. It is our opinion that Dr. Weiss is using to maximum benefit the support he is receiving.

We should also like to extend our thanks to the personnel of the United States Embassy in Warsaw for their efficient and kind assistance. In particular we appreciate the support received from Mr. Littell, Miss Wanamaker, and their staff.

And finally, we should like to express our sincere gratitude to the Vocational Rehabilitation Administration, most notably Mr. Joseph La-

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Rocca, Chief of the International Activities Division, and his staff for their assistance in all phases of the planning and conduct of this mission; and to Dr. Robert E. Stewart, Director, Prosthetic and Sensory Aids Division of the Veterans Administration for his unfailing support and assistance.

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