

THE STRIEDE "TIBIAL HAFT PROTHESE"

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In my travel report on European Brace and Limb Shops in 1953, which was printed in September 1953 in the *Orthopedic and Prosthetic Appliance Journal*, I had mentioned Striede's Above Knee and Below Knee artificial suction legs.

Actually the late Fritz Striede did not believe in a suction leg as we are accustomed to it as with certain pressure valves, etc., and called his own leg "Muskel Haft Prothese" or "muscle adhesion prosthesis."

He always combatted the old vacuum system which needed valves and claimed they would injure the stump and cause pain. As to the B. K. leg, his idea was that a slight muscular contraction suffices to control the appliance and the latter will be held so firm that a considerable effort is required to detach it from the stump. The skin literally sticks to the interior of the socket and no air gets in.

It is needless to say, in order to secure perfect adhesion by this method the artificial leg must be made perfect to measurements. When good adhesion is obtained, the stump can move within the socket in such a way that a slight muscular contraction suffices to control the appliance. However, when detaching it from the stump the muscles only have to be slightly relaxed.

The construction of the leg is therefore a delicate task, and a plaster cast is not enough to work on. The amputee has to be in the shop when the socket is made. It is the living stump which, with its muscles contracted, acts as a cast for shaping the socket at the upper end and inside of the appliance.

As the "Haftprothese" allows all stump muscles a free development, the blood circulation will improve steadily and prevents atrophy of the stump. As a matter of fact, stumps which had shrunk from the use of conventional artificial limbs—that goes for B. K. as well as A. K. legs—can be developed and strengthened to the point that some almost reach normal size again.

The inside of the "Haftprothese" has about the same pressure as the outside, because no suction is maintained as in a regular suction leg. In some cases Striede had installed a hole in the socket just below the stump end to make it easier for the amputee to insert or remove the stump. However, this hole was always closed again with a rubber stopper to keep the air from penetrating into the socket. It also helps to compensate for pressure differences which can develop inside the socket due to changes from walking to sitting positions.

The fact remains, that a B. K. "Haftprothese" will not get loose in the socket as long as the amputee maintains a certain amount of muscle contraction. It also should be noted that no suspension straps of any sort are needed or used and the amputee is completely free in his or her movements.

Since Striede's Tibial B. K. leg does not employ a thigh corset and knee joints, it is obvious that considerable body weight is distributed over

the patella tendon, the fibula and the condyles. Very little weight is borne at the end of the stump, although the airtightness in the socket creates an air cushioning effect on the bottom and adds to the comfort of wearing the prosthesis.

As far as the foot is concerned, Striede constructed his own pattern which is a jointless rubber foot with a wooden ankle piece, a wooden keel extending towards the toe joint and a big air pocket in the heel part which allows for compression when the heel strikes the floor.

Comparing the Striede foot with our present SACH foot, I would say that both constructions have so much in common—except for the material—that we could call the Striede foot the forerunner of the SACH foot. Some similarity also exists between the tibial haft prothese and our new patella tendon bearing below-knee prosthesis.

In conclusion to my observations of the Striede legs on my European trip, I would like to pay tribute to a man who dedicated his whole life to his profession and his amputees. A tireless worker, he had no private life except for a little skiing in winter, tennis and swimming in summer. He never had time to marry, and his only thoughts and dreams concerned the happiness and comforts of his patients. If he had been given the opportunities to materialize his dreams and ideas which he told me so freely, I know our profession would have gained immensely.

He died too soon and deserves a "Salute."

In Memorium

A. O. Rogers, C.O., C.P., was fatally injured in an airplane accident April 15, 1960. Mr. Rogers, originally a native of California, was a member of the Association, and the facility which he operated at Anchorage was certified in prosthetics and orthotics.

Mr. Rogers attended several National Assemblies, where his stories of Alaskan life and his motion pictures were popular features. An account of his experiences entitled "Alaska Adventure" appeared in the *Orthopedic and Prosthetic Appliance Journal* for September 1957, pages 65-69.

Members of his immediate family who survive include his wife, Mrs. Julia B. Rogers, and three sons. Mrs. Rogers has been active in the firm and will continue operation of what is the only artificial limb and brace establishment in the State.

Otto L. Dilworth, head of the Dilworth Artificial Arm Company of Hartford, Connecticut, died at Hartford Hospital April 6th, at the age of 85. In spite of his advanced age, Mr. Dilworth was active and held a Veterans Administration contract. Mr. Dilworth lost his limb at the age of 23. Dissatisfied with the first artificial limb he obtained, he began work with the Buholtz Artificial Limb establishment in Hartford in August 1908. Mr. Dilworth held several patents on artificial arms and was also the inventor of a special electric coil for stove use. He is survived by his widow, who was treasurer and book-keeper of the company, and by a sister, Mrs. James O'Connor of New York City.