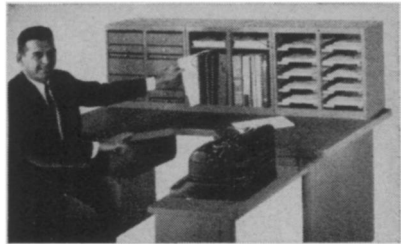


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PROSTHETICS

Back on Their Feet

Amputees are being fitted with artificial limbs and are walking in a day or two.

by Faye Marley

Walking almost at once after leg amputations is the procedure now being followed by amputees in Veterans Administration hospitals of 12 states from California to New York and south as far as Georgia and Florida.

The first thing after the patient checks into his room, somebody borrows his shoe so the prostheticist can mold a foot for him to walk on the next day.

That's the way Dr. Ernest M. Burgess works. Dr. Burgess, principal practitioner of the technique in the U.S., is a private-practicing orthopedic surgeon who operates at the Swedish Hospital in Seattle, Wash. He is also the principal investigator of the VA-supported Prosthetic Research Study Group in that city. He has 124 successful operations to his credit, and visiting groups have been observing his technique so they can use it in their own hospitals.

He has operated on children with congenital leg deformities and on men and women in their eighties whose circulation problems threaten gangrene.

At the mid-January meeting of the American Academy of Orthopaedic Surgeons in San Francisco, a film was shown demonstrating Dr. Burgess' success on various patients who were back at work in four to six weeks, some of them without cane or crutches.

The surgery technique is not particularly new, but the quick wearing of the artificial limb is. A meeting in Chicago this month, sponsored by three universities—Northwestern, the University of California at Los Angeles, and New York University—made further plans for prosthetic courses to train physicians, prostheticists and therapists in the technique, which is less than four years old.

The Navy supports the similar work of Dr. Frank L. Golbranson of the U.S. Naval Hospital in Oakland, Calif., who operates on Vietnam combat veterans, and other Government funds support the work of Dr. Frank W. Clippinger Jr. of Duke University, Durham, N.C., Dr. Augusto Sarmiento in Miami, Dr. Verne T. Inman of the University of California Medical Center, San Francisco, Dr. Allen S. Russek at New York University's Institute of Physical Medicine and Rehabilitation, and Dr. Clinton L. Compere at the

Rehabilitation Institute, Chicago. All told, more than 200 patients have benefited from the technique so far.

Credit for the technique of fitting limbs immediately after amputation goes to Dr. Michel Berlemont of Berck-Plage, France, but it was Dr. Marion A. Weiss, director of the Konstancin Rehabilitation Hospital near Warsaw, Poland, who passed along the quick-walking idea to Americans.

Dr. Burgess attended a Copenhagen, Denmark, meeting of orthopedists in 1963, where Dr. Weiss advocated the procedure, and after completing 16 cases, he went to Warsaw and observed the technique direct. Dr. Weiss' pioneer work in Poland was made possible by a U.S. Vocational Rehabilitation Administration grant under an exchange agreement.



Veterans Administration

Healing leg ready for new prosthesis.

Dr. Weiss began by studying nerve and muscle mechanisms and found that by suturing muscles to the bone under tension, he could fit a temporary prosthetic socket immediately after amputating a limb.

Both physical and psychological benefits are seen in the ability of amputees to walk instead of sitting around for six to 12 months pitying themselves while they wait for an artificial limb.

At the time of World War II amputees began to be fitted with temporary prostheses two weeks after surgery, but even then they waited as long as four months for permanent limbs.

With the new procedure, there is less stump shrinkage, so the permanent prosthetic device can be applied as early as three weeks after the ampu-

... Amputees

tation. Swelling, or edema, is prevented because the pumping action of the muscle helps the normal flow of blood. Moderate padding and a woolen stump stocking covers the suture line, and a bandage made of elastic wetted with plaster of Paris are applied with firm tension. At first, a patient does not bear full weight on the prosthesis but this is gradually increased, with little pain.

Dr. Robert E. Stewart, director, Prosthetic and Sensory Aids Service, Department of Medicine and Surgery, Veterans Administration, Washington, D.C., says VA is interested in numerous bio-mechanical devices for both hands and legs. There are 75 leg amputations to 25 arm amputations, however, and it is natural to emphasize research on the greatest number. He says there are 40,000 veterans who have undergone amputations.

Every year 30,000 persons undergo amputations of both upper and lower extremities, however, and there are more amputees among industrial workers and older people than among those in the armed forces.

All over the world, research engineers are working on new methods to improve the use of hands as well as legs. Henry Lymark of the Research Institute of the Swedish National Defense, and his team have designed a new artificial hand with five agile fingers operating on electric impulses. The hand is covered by a cosmetic glove, an exact copy of human skin—even wrinkling as healthy skin does when it is in motion. The construction is an advance over hands with steel grip mechanisms instead of jointed fingers.

At the 1966 meeting of the American Medical Association last June, American physicians saw a demonstration of a Soviet-designed, motor-driven artificial arm that operates from electrical impulses in the muscles of the amputee's stump. The Soviet bio-electric arm was the first to be mass-produced and marketed, although several laboratories elsewhere have made prototypes of similar arms, said Dr. Gustave Gingras, executive director of the Rehabilitation Institute of Montreal, Canada. Canada and England have each paid the Soviet Union \$30,000 for right to the design.

News of an Israeli pianist, Ray Leizer, who lost his hands during his country's war for independence in 1948, is now able to play the piano with artificial fingers fashioned by Dr. Henry H. Kessler, New York Medical College, who used the controversial technique called cineplasty. The technique is not new.

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*A Chapter Outline
of the Book*

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- III. Wills and Trusts
- IV. Suggestions for the Life Insurance Policyholder
- V. Automobile and Fire Insurance
- VI. Important Financial Relationships
- VII. Income, Estate and Inheritance, and Gift Taxes
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