

## VA TO STUDY KNEE COMPONENTS

The Veterans Administration has long recognized the need for careful analysis and evaluation of commercially available prosthetic components, so as to enrich the knowledge of professional prosthetists and program researchers alike, and to provide physicians with functional details helpful in formulating prosthetic prescriptions. Responsibility for this analysis and evaluation has now been assigned to the VA Prosthetics Center, New York City.

As the first phase of this project, the VA Prosthetics Center, with the assistance of New York University, will conduct a comprehensive evaluation of commercial prosthetic knee components for above-knee amputees. Engineers, prosthetists, and medical evaluation personnel are now preparing a two-phase study consisting of (1) an analytic phase in which the commercial knees will be examined and tested on a laboratory basis, without amputee fittings, and (2) a phase involving fittings to amputees both in the New York University Prosthetics Shop and in the Limb and Brace Section of the VA Prosthetics Center.

All manufacturers, distributors, wholesalers, and retailers who have prosthetic knee units on the market are asked to communicate with the Chief, VA Prosthetics Center, 252 Seventh Avenue (third floor), New York 1, New York. The study is intended to include all commercially available artificial knees, and it is hoped that all vendors of knee units will cooperate by the submission of their devices.

### Laboratory Testing

Personnel from the two cooperating organizations will evaluate the design and construction of commercially available knee units by determining (1) the functional characteristics of the mechanism, (2) the adequacy of materials used in the mechanism, and (3) ranges of motion and magnitudes of frictional resistance. Testing for structural adequacy will be performed, if indicated. Engineers and prosthetists will, using these data as well as visual examinations, specify function and delineate apparent advantages and/or limitations of the devices.

At the conclusion of this phase a report will be published, presenting the data obtained for all of the devices surveyed, as well as the findings of the prosthetists and engineers. Illustrations will be used to show the design and function of each component evaluated.

### Amputee Testing

Fittings of the commercial knees will be done in both the New York University Limbshop and in the Limb and Brace Section of the Veterans Administration Prosthetics Center. The New York University fittings will involve a carefully selected group of amputees, with emphasis directed at analysis of gait, using special laboratory equipment such as force plates and the interrupted light camera. The Limb and Brace Section will also fit amputees (probably a larger number) with primary emphasis being given to fabrication, fitting and alignment problems, as well as to durability of the knees. Both research groups will, of course, be interested in reactions of the amputee test wearers.

The proposed studies should produce objective and subjective data regarding each of the knees submitted for test. Results of the amputee tests will also be published, probably as addenda to the report of the earlier investigations.