

GERIATRIC AMPUTATIONS*

By C. A. BELL

Director of Prosthetic Services Department of Veterans Affairs,
Dominion of Canada

A study has been completed of all primary amputations carried out on veteran cases, 50 years of age or over, in Department of Veterans Affairs Hospitals during the last five years to determine the results of fitting artificial legs to the elderly amputee. Some 110 cases are reported, the majority of whom were treated for non-service related conditions.

The following results (see tables) have been related to age, cause of amputation and site of amputation and the criteria used in the review of limb fitting was based on the under-mentioned definitions:

Successful

—where significant use of the prosthesis was maintained for a six months' period after completion of limb fitting.

Failure

—where significant use of the prosthesis was not maintained for a six months' period after completion of limb fitting.

Not attempted

—patients considered too debilitated to attempt limb fitting.

It would appear that 80 years of age is about the limit for successful fitting, but age alone is not the determining factor. The necessity of carefully assessing physical conditions and fortitude of the patient before referral for limb fitting cannot be over-emphasized. Time elements of fitting and walking training are increased 50 to 100% in this group. The oldest patient was 78 years, amputation as a result of arterio-sclerosis. He wore his R.A.K. limb for over two years before taking to a wheel chair in his 81st year.

The trauma cases, including accident, frost-bite and old injuries, presented few failures in limb-fitting. This is undoubtedly due to better physical condition of the patient and very little complications arising from progressive degeneration or cardiac conditions.

The disease case failures were due to debility, progressive degeneration and cardiac conditions, and in one case of tumor, painful stump. The age group of these failures was mostly from 58 years upwards.

It is significant that the higher site of amputation presents more of a problem than the lower site. The double amputation fitting failures are naturally high because of increased physical effort required.

In this statistical study, it is evident that no definite basis is possible as a guide to successfully fitting the elderly amputee, but on the other hand, the need for careful individual case study along the lines of scientific amputee rehabilitation is of paramount importance. While the trauma cases presented no particular problem, the peripheral vascular cases required a close study of reaction to the physical demands imposed.

The surgeon is often in a dilemma at making a decision as to limb-fitting such cases, because of the desire to maintain patient morale and the uncertainty of predicting results in any given case. Every amputee's first thought is "How soon may I be fitted and become ambulant?" Only those who are directly connected with the prosthetic picture have a realization of the tremendous efforts, both physical and mental, that have to be exerted

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TABLE I — AGE

| | 50-54 | 55-59 | 60-64 | 65-69 | 70-74 | 75-79 | 80-84 | 85 Plus | Total |
|---------------------|-------|-------|-------|-------|-------|-------|-------|---------|-------|
| Successful | 22 | 11 | 16 | 16 | 8 | 4 | 0 | 0 | 77 |
| Failure | 2 | 2 | 4 | 7 | 7 | 3 | 0 | 1 | 26 |
| Not attempted | 0 | 2 | 0 | 1 | 3 | 1 | 0 | 0 | 7 |
| | 24 | 15 | 20 | 24 | 18 | 8 | 0 | 1 | 110 |

TABLE II — CAUSE OF AMPUTATION

| | Successful | Failure | Not Attempted | Total |
|--------------------------|------------|---------|---------------|-------|
| Trauma | 28 | 1 | 1 | 30 |
| Arterio-sclerosis | 32 | 15 | 5 | 52 |
| Diabetes | 8 | 5 | 1 | 14 |
| Buerger's | 5 | 3 | 0 | 8 |
| Cancer, Tumor, T.B. | 4 | 2 | 0 | 6 |
| | 77 | 26 | 7 | 110 |

TABLE III — SITE OF AMPUTATION

| | Symes | B.K. | Through Knee | A.K. | Double B.K. | One A.K. One B.K. | Double A.K. | Total |
|---------------------|-------|------|-----------------|------|----------------|----------------------|----------------|-------|
| Successful | 2 | 22 | 9 | 37 | 2 | 2 | 3 | 77 |
| Failure | 0 | 1 | 4 | 11 | 1 | 1 | 8 | 26 |
| Not attempted | 0 | 0 | 0 | 4 | 0 | 1 | 2 | 7 |
| | 2 | 23 | 13 | 52 | 3 | 4 | 13 | 110 |

to successful accommodation to an artificial limb. Therefore, care must be exercised as to the psychological approach to limb-fitting of the elderly amputee by all those concerned with the treatment of the case.

The response to physical build-up will materially assist in arriving at a conclusion before prescribing a limb. Graduated remedial exercises with observance to cardiac reaction should be a routine procedure. The progressive degeneration of the disease in the remaining limb may be a contra-indication or delay the decision. During such treatment, a practical assessment should be made of the fortitude

and determination of the patient.

The use of pylons or peg legs as a temporary measure will serve as a practical test to limb tolerance in single amputees. In the bilateral above-knee case, the use of short rocker legs is strongly recommended in the initial fitting stage. Such rockers may often provide a means of ambulation around the home where the extreme efforts required for full length legs may not be subsequently tolerated.

Our limb-fitters can make a socket to fit any stump, but they cannot make the patient walk on the limb, unless favorable physical and psychological

conditions are present. The careful observance of pre-limb treatment will save much time and wasted effort on the part of all facilities concerned with the treatment of the case and may ease the disappointment that follows to the patient who finds the efforts impossible.

In the detail of this review, one is impressed with the amount of time and effort put in on some of these cases. The 65% success in fitting the disease cases was accomplished only by the closest co-operation between treatment and prosthetic services. A cautious approach must be made to the provision of an artificial limb to the vascular disease amputee and periodic check-ups should be made on all such cases fitted.

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SIEVERS NAMED TO ACADEMY FACULTY

Walter R. Sievers of New York City, Secretary-Treasurer of the Certification Board, was a faculty member of the Instructional Courses of the American Academy of Orthopedic Surgeons at their annual meeting in Chicago, January of this year. With Dr. Atha Thomas, he gave a two-hour course on *Orthopaedic Braces and Appliances for the Spine and Trunk*. The course included fundamental principles of brace design and prescription, in addition to demonstration of types of spinal braces and corsets.

Mr. Sievers thus became the *first* member of the artificial limb and brace profession to serve on the faculty and have faculty status for the courses at the Academy sessions. These courses have become an outstanding feature of the meetings of orthopedic surgeons, and have been expanded in recent years.

FIRST UCLA CLASS HONORED

The first class of prosthetists, therapists and physicians to complete the UCLA Training Course received their diplomas at graduation exercises in Los Angeles, February 19, following a dinner in their honor. L. M. K. Boelter, Dean of the College of Engineering of UCLA, presented the diplomas to the pioneer group as their names were called by Dr. Miles H. Anderson, Director of the UCLA Prosthetics School.

Distinguished guests on hand to cheer the graduates included Dr. Craig L. Taylor, Director of the UCLA Artificial Limbs Research Project, Dr. Eugene Murphy, Assistant Director of the VA's Prosthetic and Sensory Aids Service, and members of the Prosthetics Industry Advisory Committee.

Two class members, Herbert B. Hanger and William J. Ferris, Jr.,

received "Oscars" in tribute to their star performances while appearing on television programs sponsored by the Prosthetics Center.

The graduating class includes eight prosthetists: William E. Hitchcock, Theodore G. Williams and William J. Ferris from the Boston area; Herbert B. Hanger, Charles R. Goldstine, William A. Tosberg and Walter S. Pavelchek from New York, and Sanford Kessler from Orange, N. J.

The second class enrolled March 2 includes Daniel Ahern from Newark, N. J., Geoffrey Hall from Toronto, Canada; Edward Latimer from Dallas, Texas, Alvin Muilenberg from Houston, Texas, W. Andrews and C. Talbert from San Antonio, Texas; George W. Berryman from New Orleans; Michael Amrich from Chicago, and Hector Kay from New York City.