

The Case for a Pylon

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Is there a place for a "peg" among the modern laminated products of the limb maker's shop? Progress in the field of limb construction now allows for fitting of all types of stumps with satisfactory prostheses. Agencies, both private and governmental, are furnishing support for research in advanced prosthetics, as well as financial assistance for the purchase of the latest in prosthetic appliances. Prosthetic clinics provide an arena where surgeon and prosthetist can combine talents to solve the most difficult prescription problems. In spite of this a large gap exists between the number of persons having a major lower extremity amputation and those subsequently using an artificial limb. This gap is primarily occupied by geriatric amputees, and as this number is increasing more effort must be devoted to solving the problems existing in this area.

A partial solution may lie in the use of a temporary pylon fitted soon after surgery. By this means the patient may begin to adjust to the use of an artificial extremity before he or the surgeon lose interest in the whole procedure. A trial with a pylon will indicate those patients with the stamina and motivation to carry through with the required training and ultimately use a prosthesis. During this time the use of the pylon will help prepare the stump for proper fitting, limit the development of contractures, and shorten the period of post prosthetic training required.

To expand on this possibility we have begun a program directed specifically toward the geriatric patient with a below knee amputation. The initial work revolved around the design of a standard pylon which would meet the following requirements:

1. Inexpensive. Most financial support in the geriatric group comes from public funds and to meet with agency approval for routine use the cost must be kept down.
2. Simple. Fabrication must be uncomplicated to allow for prompt fitting and replacement if stump conditions change.
3. Characteristics similar to permanent prostheses. It is important to provide the older amputee with the best conditions possible when assessing his tolerance for an artificial leg, and to minimize the problem of adapting to the final prosthesis. This criterion must be considered carefully with the first two because there is a strong tendency to refine temporary pylons until they are virtually identical to a finished limb.
4. Safe. Supervision and training should require no more than the ordinary facilities available in the average hospital and physiotherapy units.

We are now using a temporary below knee pylon, to be described in the following article, which we feel meets the above requirements. At the present time we are fitting the below knee amputee with the pylon three to four weeks after surgery. Despite optimistic reports from other sources on fitting at the time of surgery we feel that by allowing three weeks for wound healing the necessity for specialized supervision is eliminated, the patient can be treated in a usual fashion without upsetting hospital routine, and, most important, possible damage to fresh and precarious skin flaps in a below knee amputation is avoided. During this time the patient is started on exercises, there is little loss of continuity and the patient remains motivated. This pylon has proved satisfactory in trials to date with patients ranging in age from fifty-six to eighty. Clinical experience indicates that the socket will allow for changes in the size of the stump as it matures and there have been no significant problems with skin tolerance. A period of several years will be necessary, of course, to evaluate the ultimate success of this program.

The elderly amputee has many things working against him. He is less readily adaptable to changes in his environment, and less adept in mastering new physical skills. He is easily discouraged by failure and often lacks motivation to persist with tedious training. He lacks financial resources for obtaining an expensive prosthesis and by virtue of age may not qualify for certain types of assistance. Concurrent medical problems often cause delays in prescribing a prosthesis. The combination of these factors results in many prostheses gathering dust in a closet and many capable amputees gathering dust in a wheelchair. If an inexpensive temporary pylon can make any significant improvement in the present situation, it will be well worth the extra time and effort involved.

Temporary B.K. Prosthesis

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The following is a discussion of the temporary prosthesis that was used for the group of geriatric patients discussed in the preceding article by Dr. David G. Murray.

This team is attempting to provide an inexpensive, temporary walking leg, that will not only give the elderly below knee amputee an adequate socket for the purpose of stump shrinkage and shaping, but will also get the geriatric patient back on his feet within three to four weeks after operation. This temporary prosthesis is being used to some extent to determine the advisability of further prosthetic rehabilitation.

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