

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

By SAM E. HAMONTREE, C.P., † KURT MARSCHALL, C.P., * and
D. G. MURRAY, M.D. §

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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† Frees and Tyo, Inc., Syracuse, New York.

* Empire Limb Co., Syracuse, New York.

§ Upstate Medical Center, Syracuse, New York.

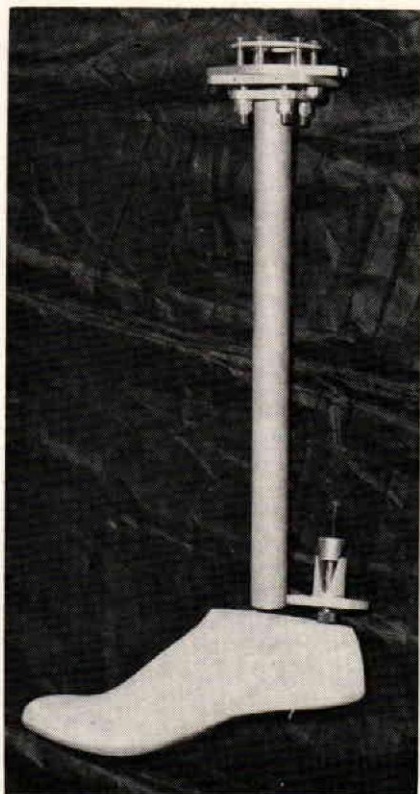


FIGURE 1—Components utilizing Northwestern B.K. pylon.

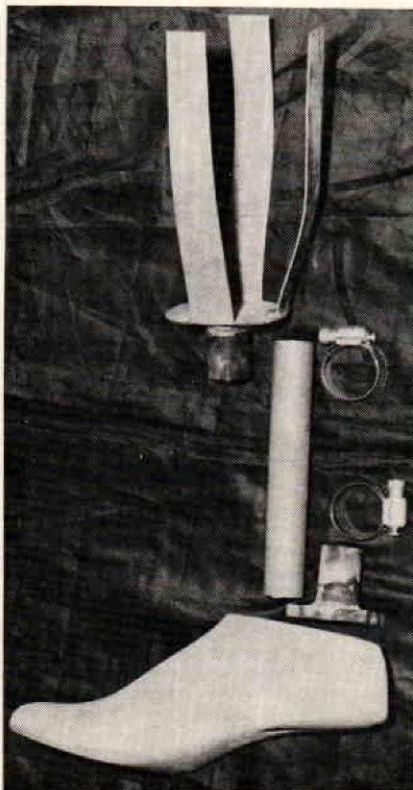


FIGURE 2—Components for original pylon.

When choosing a material for socket fabrication, it was realized that a plaster socket cannot be as extremely well-fitted as a P.T.B. socket, nor can it incorporate all the biomechanical advantages of one. However, it does provide some of the characteristics of a P.T.B. prosthesis. Also, it has proven quite satisfactory for weight bearing, stump shrinkage, and stump shaping during shrinkage.

Two types of pylons were used in this study. Originally a simple and inexpensive pylon was fabricated in our own facilities, subsequently we have used the Northwestern B.K. pylon (fig. 1) from A. J. Hosmer Corporation for comparative purposes.

The original pylon (figs. 2 and 3) lacks the features of alignment adjustments incorporated in the Northwestern unit, but it is much less expensive and did appear to be sufficient for this study; and minimal expenses were mandatory. The pictures of the pylon are self-explanatory, but in brief, the straps (medial, lateral and posterior) and the plate (approx. 2½-3 inches in diameter) are cut as one piece from a soft, light metal. The proximal and distal plugs are steel pipe, welded to bases, with an aluminum tube of the proper size to fit over the plugs, and clamped with hose clamps.

The following is the method which is used by this group for fabricating a temporary prosthesis to meet the specified requirements.

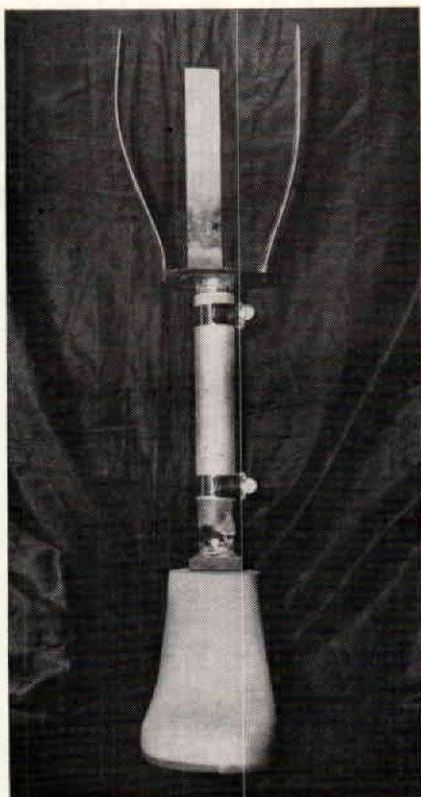


FIGURE 3—Assembled components.



FIGURE 5—Finished pylon marked for cutting the anterior opening

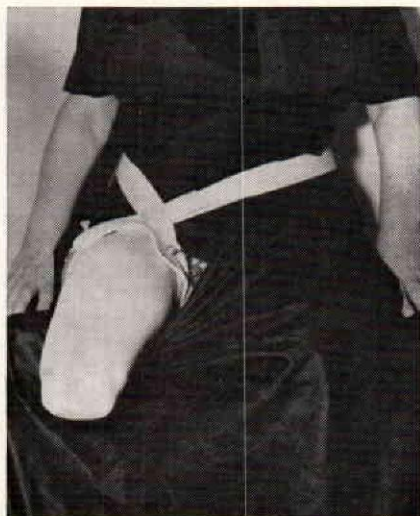


FIGURE 4—Stump prepared for casting. Foam rubber in place over end of stump.



FIGURE 6—Side view of finished pylon.

