

TECHNICAL NOTE:

An Easy-to-Fabricate Modified Hip Disarticulation Temporary Prosthesis

Michael S. Pinzur, M.D.
Richard M. Sakols, C.P.
Charles J. Lopez, Jr., Prosthetist
Phil Tirimacco, C.P.
Helen Macie Osterman, M.S., R.N.

INTRODUCTION

Severe peripheral vascular disease, malignant tumor, or trauma occasionally requires the performance of a very proximal lower limb amputation. When proximal amputation is performed in young people, it is expected that they will be able to ambulate with a prosthesis. Occasionally, however, the amputation surgeon is confronted with the older patient who requires amputation at the hip disarticulation or proximal femoral level. When amputation is performed at this level, the prosthetic fitting is similar to the hip disarticulation. Waters, et. al.¹ have shown high energy requirements associated with ambulation at these high levels of amputation. Standard techniques are available to start the prosthetic fitting process in the young patient,² but these techniques are expensive and time-consuming to the prosthetist. We have recently reported the results of a simple fabrication technique for early-post-surgical-prosthetic fitting of below-knee amputees.³ The object of this paper is to present a simple system that can be used to fabricate a temporary prosthesis in this difficult patient population.

TECHNIQUE

When the surgical wound is healed or considered stable for weight-bearing, a "mini-spica" plaster cast is applied. Cotton stockinette, stitched closed on the amputated side, serves as the interface with a 1/4" felt pad positioned around the waist and skived on all sides. The cast is made removable by splitting the contralateral suspensory limb and attaching two Velcro® closures (Figure 1). With the patient standing in parallel bars, a prefabricated plastic limb (STATLIMB, Kells Medical, Burr Ridge, Illinois) is attached with fiberglass casting tape. The plaster cast is reinforced with fiberglass casting tape to maintain strength and overall light weight. A rubber-soled shoe or cast-shoe is applied to the "foot" of the pre-fabricated limb, and immediate weight-bearing can be initiated (Figure 2).

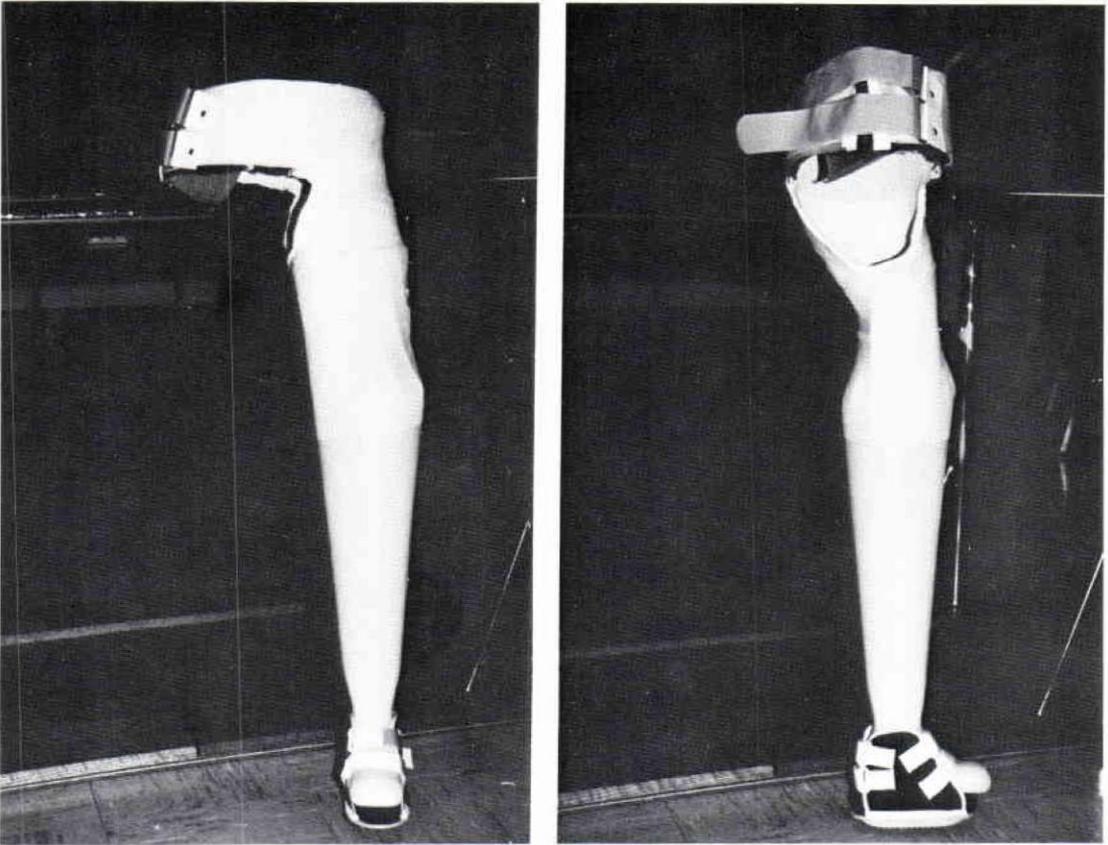
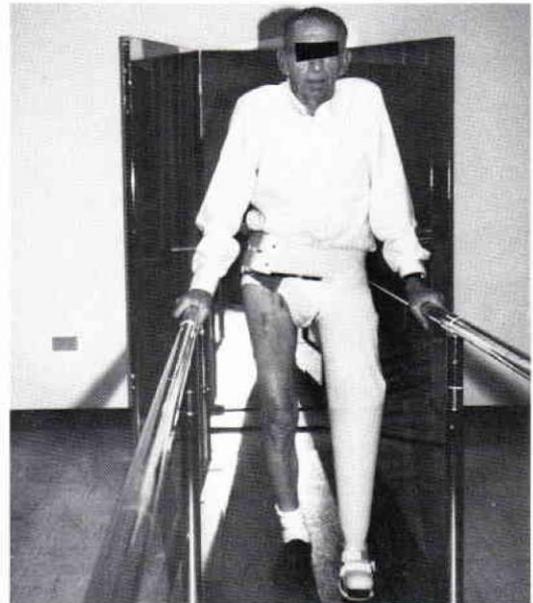


Figure 1. Front and side views of the Temporary Hip Disarticulation Prosthesis. The system uses a plaster "mini-spica" cast and a prefabricated plastic prosthesis attached with fiberglass cast-tape.

Figure 2. (right) A patient standing with the temporary prosthesis. He was able to start gait training and proved that he was capable of ambulation with a hip disarticulation-type prosthesis.



AUTHORS

The authors are from the Special Team for Amputation, Prosthetics/Orthotics (STAMP) Center, Hines Veterans Administration Medical Center and Loyola University Medical Center, Maywood, Illinois. Please address correspondence to: Michael S. Pinzur, M.D., Loyola University Medical Center, 2160 South First Avenue, Maywood, Illinois 60153.

REFERENCES

¹Waters, R.L., Perry, J., Antonelli, D., and Hislop, H., "Energy Cost of Walking of Amputees: The Influence of Level of Amputation," *J. Bone and Joint Surg.*, 58:42-46, 1976.

²Burgess, E.M., Romano, R.L., and Zettl, J.H., *The Management of Lower Extremity Amputations*, United States Government Printing Office, TR 10-6, August, 1969.

³Pinzur, M.S., Kraker, D., Daley, R. and Osterman, H., Early Post-Surgical Prosthetic Limb Fitting with a Prefabricated Plastic Limb, Scientific Exhibit Presented at the Annual Meeting of the American Academy of Orthopaedic Surgeons, New Orleans, February, 1986.