Orthotics and Prosthetics, Vol. 40, No. 1, pp. 55–57.

Technical Note: A Simple Boot to Prevent Pressure Sores

Albert L. Howe, C.P.O.

INTRODUCTION

Pressure sores on the heels and bony foot prominences are an unfortunate and frequent occurence in the elderly patient confined to bed. While many padded foot protectors are commercially available, none has proven entirely effective in our experience. We have, therefore, designed our own foam boot. It is maximally effective in preventing pressure sores and can be made in minutes from materials available in any hospital-based orthotics laboratory.

FABRICATION

Materials required are an "eggcrate" foam mattress, Masters® cement, Velcro® and canvas webbing. Masters® cement is first applied to one border of an 18" square piece of eggcrate mattress. Folding the square in the middle so that the knobby surface is to the inside, the edges of the cemented border are pressed together so that they adhere (Figure 1). A second 18" square piece of eggcrate foam is then applied to the outside smooth surface of the first square and its border glued together in a similar manner (Figure 2). Two webbing straps with Velcro® closures are then fashioned to hold the anterior opening of the boot closed.

The completed boot (Figure 3) encompasses the distal lower extremity to the mid-calf, protecting not only the foot and ankle prominences but also the Achilles' tendon area. Because the foam padding completely envelops the leg, it is impossible for the closure straps to chafe the skin. The double layer of foam not only provides double padding but also increases the surface area of the boot, thus distributing forces more evenly between the foot and the bed. Because the contoured surface of the eggcrate is next to the skin, there is ventilation between the skin and the foam rubber, thus preventing temperature build-up. Since the projections of the eggcrate foam move with the patient, there is no friction on the skin.

The material cost of the boot as described is less than $10.00. Four boots can be made from one eggcrate mattress.

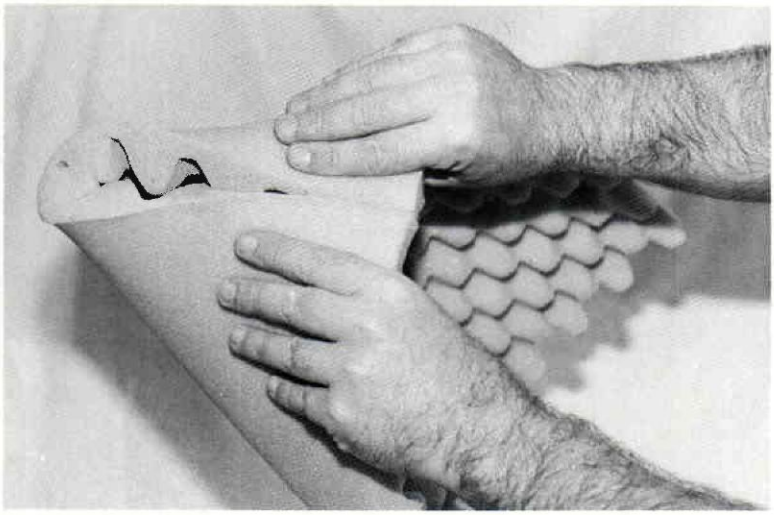

Figure 1. The border of the eggcrate mattress is adhered with the projections facing in.

Figure 2. The second layer is prepared in a fashion similar to the first, and the one layer is placed inside the other.

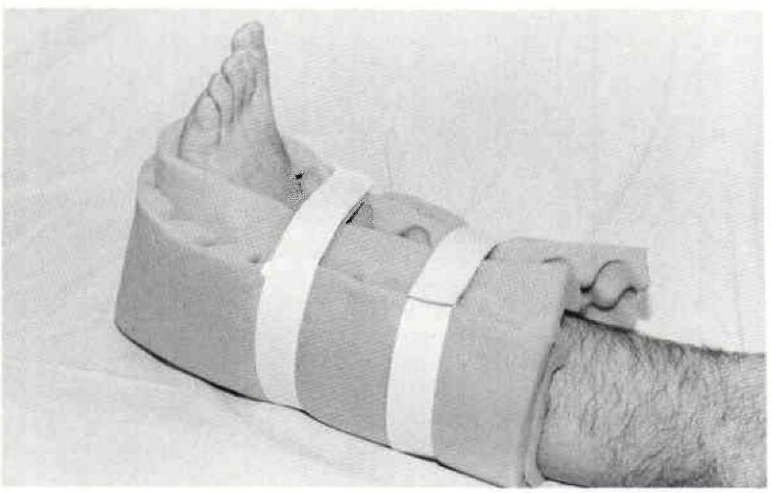

Figure 3. The completed boot, shown positioned on the patient, with closures in place.

SUMMARY

Over the past eight years, we have used the above-described double layer eggcrate boot to prevent pressure-induced skin lesions in elderly bedridden patients. No pressure sores have developed while the boots were in use. We recommend our design as an acceptable alternative to commercial foot padding for the prevention of pressure sores.

AUTHOR

Albert L. Howe, C.P.O., is with the Veterans Administration Medical Center, 1310-24th Avenue South, Nashville, Tennessee 37203.

ACKNOWLEDGMENTS

H.J. Bugel, M.D., for consultation; Cynthia Schneider, M.D., for assistance in preparation of manuscript; David L. Norris, orthotist, for photographs.