Orthotics and Prosthetics, Vol. 29, No. 3, pp. 39–41, September 1975

TECHNICAL NOTES

A MODIFIED ORTHOSIS FOR PREVENTION OF RECURRENT DISLOCATION OF HIP ARTHROPLASTIES

A dislocated hip orthosis can be an extremely difficult management problem. Traditionally, the hip has been reduced and the patient placed at bed rest in Wilke Boots for four to six weeks. This complication usually occurs in the elderly patient, and the period of forced bed rest is undesirable since it may, in turn, cause additional complications such as pneumonia, decubitus ulcers, and pulmonary embolism. Dislocation can also be recurrent, particularly in the total-hip-replacement prosthesis.

The advantage of holding the hip and limb in a stable position, yet allowing the patient to be ambulatory, is obvious. With this in mind, we decided to modify an orthosis that consists of a lumbosacral support (chair back or Knight spinal) with a hip joint and an extension around the thigh. The modified orthosis (Fig. 1) holds

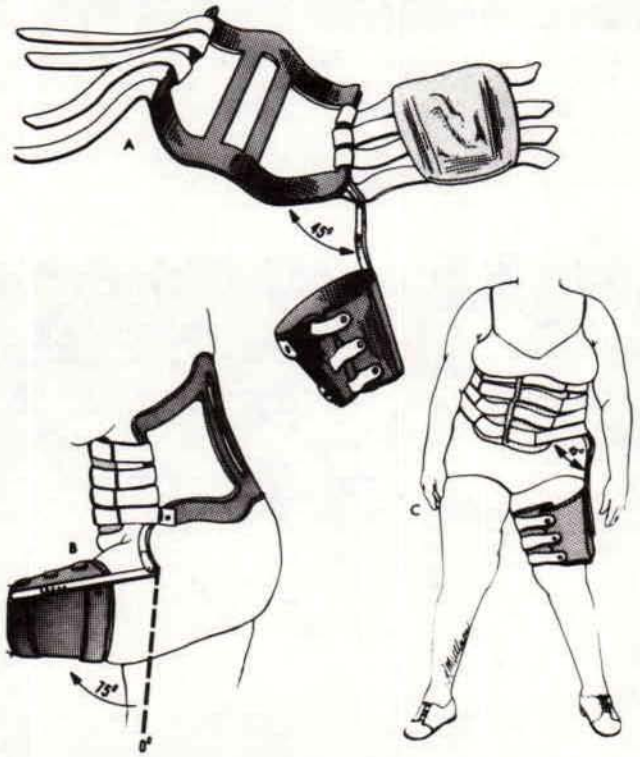

Fig. 1. Details of the orthosis. Flexion of the lower limb can control up to 75 deg. according to the case. It is advisable not to allow more than 60 deg. of flexion following a Charnley type of total hip arthroplasty.

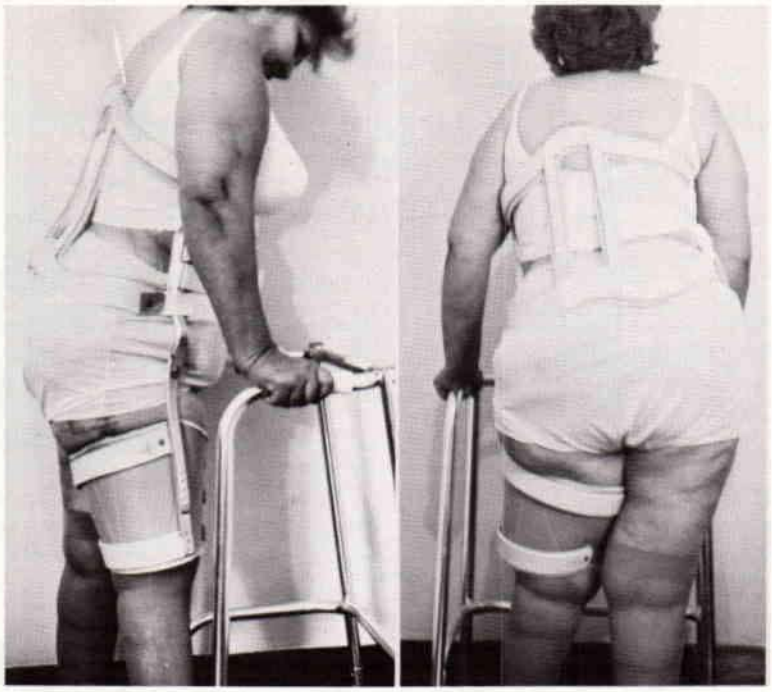

Fig. 2. A 57-year-old white female, who underwent a total-hip-replacement-type McKee-Farrar on April 15, 1970, following osteoarthritis of the hip. A revision of the hip was done due to loosening of the components and a low friction arthroplasty was performed on July 6, 1974. Due to tissue laxity, the prosthesis dislocated on two occasions. The orthosis was ordered and fitted, and the patient was able to walk immediately. Patient was discharged one week later.

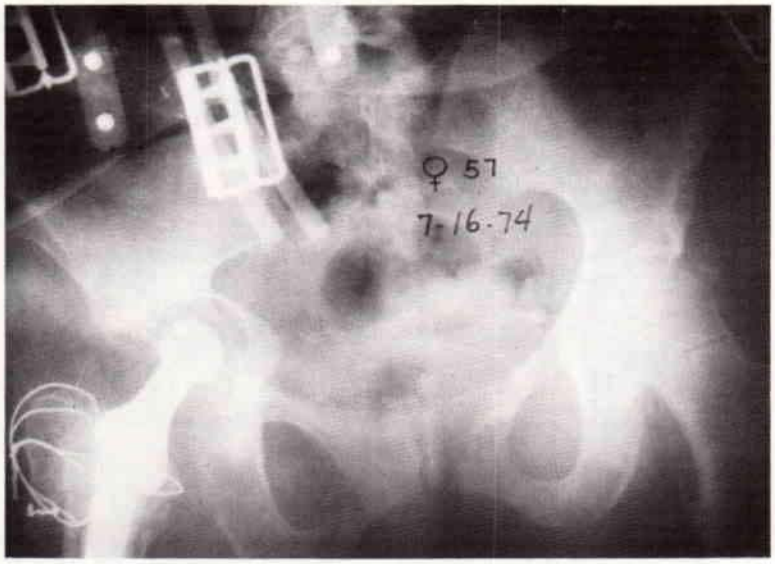

Fig. 3. X-rays of the pelvis of the patient shown in Figure 2 with the orthosis on. Notice the inclination and good coverage of the femoral component.

the limb in 45 deg. of abduction, does not allow hip extension, and allows no more than 50 to 70 deg. of flexion. For accurate control of hip flexion one may use a heavy-duty joint of the Klenzak type used for ankle dorsiflexion. If this joint is used it must be reversed with the upright attaching to the thigh section of the brace. If one wishes to control rotation, a twister cable can be added from the thigh to the shoe.

The abduction of the thigh forces the patient to tilt his pelvis down on the operated side and gives better coverage to the prosthesis. With the limitation of flexion and extension, and rotation if necessary, dislocation is prevented.

We have treated five patients (Figs. 2 and 3) at the University of Miami School of Medicine with this orthosis. There have been no dislocations after institution of the orthosis. All patients were allowed to ambulate as soon as they were fitted. Hospital stay was, therefore, markedly reduced with this method. The brace was utilized from four to six weeks which allowed soft-tissue healing in the stable position. The brace can be used for endoprostheses or total-hip replacements.

SUMMARY

A modification of the lumbosacral support with a thigh extension to prevent redislocation of hip arthroplasties in the early postoperative period has been presented. The specifications are, namely, a lumbosacral support with a hip joint and a thigh extension that does not allow more than 75 deg. of flexion, and a twister cable if rotation has to be controlled. Five patients have been treated with this method at Jackson Memorial Hospital of the University of Miami School of Medicine with satisfactory results.

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