



Methods of Application of Corrective Short Leg Walking Cast

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Introduction

In 1989 Dr. Krackow presented his research in the American Journal of Knee Surgery in which he used a corrective short leg-walking cast as a preoperative clinical tool. The cast realigns the leg to neutral position to simulate the effect of a high tibial osteotomy for patients with a varus deformity of the knee related to osteoarthritis.

Our approach is to use a modification of the corrective short leg-walking cast. Krackow's wedge was constructed entirely of fiberglass. However, fiberglass is difficult to work with, because the rows of fiberglass have to be shaped into a wedge and this is difficult to do to exact specifications.

A block of wood obtained from the hospital carpentry shop is easy to shape into a wedge and easy to apply. The fit within the short leg-walking cast is better using this wedge.

Materials

In applying the short leg cast the following materials were used: A block of wood with the dimensions 4 x 9 x 2 cm; three rolls of 5 inch Johnson and Johnson deltalite green label fiberglass; one roll of 3 inch Johnson and Johnson deltalite green label fiberglass; four rolls of 4 inch Johnson & Johnson web rolls; one 3 inch stockinet strip; adhesive mole skin cut to specific dimensions; two strips of 3-M reston with an adhesive foam back.

Application

The patient should be seated on a hospital exam table with the lower leg hanging over the edge of the table and the patient instructed to hold the foot in a neutral position. The 3-inch stockinet is applied to the lower leg and a slit is made on the dorsal surface of the web space of the ankle. Then 4-inch web rolls are applied to the lower leg. Following this, the two pieces of reston are added, one on the plantar aspect of the

foot to incorporate the proximal heel, and the other on the dorsal aspect of the foot and ankle.

Three rolls of 5-inch fiberglass are applied beginning at the distal end of the metatarsal and extending up to the tibial tuberosity. The 3-inch fiberglass roll was used to secure the wooden wedge of the lateral aspect of the foot from the mid-foot to the heel. The bottom of the wedge should be flush with the plantar aspect of the cast. The cast of dry moleskin is applied to cover the plantar aspect of the cast. As patients walk directly on the cast, the moleskin provides traction and also comfort. Also for convenience and hygiene, a toe cover and shower bag are used.

Patients are instructed to ambulate as tolerated and elevate the casted leg when resting. This precedes the orthopedic evaluation usually by several days to a week.

The use of a wooden block constructed to specific specifications and inserted laterally into a short leg cast allows better preoperative evaluation of varus osteoarthritis of the knee. Patients in whom significant pain relief occurs are more likely to meet with operative success following a high tibial osteotomy.

The application of this type of collected short leg walking cast with a wooden wedge is not difficult. It is less complicated than molding fiberglass. The glass, including the wedge, allows for more accurate preoperative prediction of the success of a high tibial osteotomy in relieving pain.

ABOUT THE AUTHOR

Novisa Petrusich has twenty years of experience in the Orthopaedic Field. He graduated from the Cook County Orthopaedic Technologists Program and has been an orthopaedic technologist at Rush Presbyterian St. Lukes Medical Center for seventeen years.

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