

ADJUSTABLE POST-OPERATIVE PROTECTIVE PREPARATORY SYSTEM EFFECTIVENESS FOR TRANSTIBIAL AMPUTEES

Joshua H. Kaufman, M.D. (Ochsner Clinic, New Orleans, LA); Maria Carmen Espiritu, M.D., P.T. (Louisiana State University Medical Center, New Orleans, LA); Kenneth Bordelon, C.P.O.; Kenneth Galang, M.D.

Since the 1960's, the use of immediate post-operative prosthesis (IPOP) has demonstrated many advantages as far as improved wound healing and earlier ambulation for amputees. However, a few studies have found an equal or greater complication rate attributed to increased temperature during the application of plaster cast and the inability to observe the residual limb except at cast change. The Rigid Removable Dressing was introduced in 1979 and unlike the IPOP it had the advantage of frequent observation for wound care. However, re-casting was still required at least three to four times prior to fitting of the definitive prosthesis.

A prefabricated, adjustable post-operative, protective and preparatory prosthetic system has been developed for transtibial amputations. An example of this system is the APOPPS™ by FLO-TECH® O&P Systems, Inc. The purpose of this study is to determine the effectiveness of this system compared with the conventional treatment of ace wraps and stump shrinkers and to determine if use of this system decreases the time between amputation and receipt of a definitive prosthesis. A retrospective review of the charts was performed on 30 transtibial amputees who underwent amputations between January 1996 to October 1999. 21 of the patients used the APOPPS™ and were fitted for their definitive prosthesis in an average of 77 ± 13 days. 9 of the patients used the conventional post-operative method and were fitted for their definitive prosthesis an average of 195.5 ± 97.6 days.

A study done by Wu in 1979 on the rigid removable dressing demonstrated that 18 BKA patients treated with rigid removable cast were fitted for their prosthesis in an average of 101.8 days compared to 30 BKA patients treated conventionally fitted for their definitive prosthesis in 191.4 days.

This review suggests a decrease in time from surgical amputation to the fitting of the definitive prosthesis in patients who used the APOPPS™ system. Delayed fitting of the definitive prosthesis in the conventionally treated group may be due to poor wound healing, the development of knee flexion contractures or other medical complications. The investigators continue to examine the APOPPS™ and its effect on the duration of in-patient rehab. stay and out patient therapies and its overall cost-effectiveness.