

# A Modified Modification

## *(Cosmetic Improvement of a Good Product)*

SIEGFRIED W. PAUL, C.P.O.

*Director, Orthotic and Prosthetic Department  
Newington Hospital for Crippled Children*

One of the more recent newsletters of the A. J. Hosmer Corporation introduced a variation of the Northwestern University developed hip disarticulation hip joint as now commercially available.

The added technical feature consists of a lever arrangement providing stride control and stability of the hip joint during the walking cycle.

Mr. Carlton Fillauer of Fillauer Surgical Supplies, Chattanooga, Tenn. is to be credited with the passing on of the basic idea which has been used by him for several years.

This "home made" modification of a standard H.D. prosthetic hip joint had in its simplicity a feature not present in the Hosmer engineered product. Mr. Fillauer's approach offered cosmesis along with excellent joint and stride control eliminating the Hip-Knee strap of the Canadian design.

The Hosmer product is combining the hip stride control with the Northwestern University joint causing cosmetic problems due to the anterior and proximal located axis of the hip stride control lever.

Our approach to better cosmesis without loss of the excellent technical features is illustrated in the pictures one through three.

The modification consists of the following changes:

The socket attachment plate has been milled out of 2024 Duraluminum stock as one solid unit. (**Illustration #1**) We eliminated the spherical washer adjustable unit which in our experience is helpful but not a necessity. The hip joint axis could therefore be located in a much closer proximity to the socket. It became also possible to orient the axis for the hip stride control lever at the anterior surface of the socket eliminating any anterior protrusion.

We utilized the original set up block (after notching of the bars to prevent separation from the plastic) and the hip stride control lever.

Dynamic alignment of the socket in relation to the lower prosthesis was easily obtained by using wedges inserted between the flush surfaces of the attachment plate and the prepared socket.

Illustration number 1 demonstrates the plate after completion of the milling process and does not show the later on applied holes fitting the four socket attachment bolts.

The idea of hip stride control has easily been misinterpreted as a hip lock but was intended to function as a stride length control. The stride length depends on the margin between the distal and anterior stop of the lever and the bumper on the thigh section. We prefer to start a patient with a margin of about  $\frac{1}{8}$  inch which will result in a short touching step of the beginner. It is easy to remove additional material once a gait pattern has been established and a longer stride length has become desirable.

Our first unit was made for a teenage girl and the temporary leather cover shown in pictures two and three has been replaced with a cosmetic thigh restoration covering the entire thigh section including the closed front knee unit.

This pilot model has now been in use for over nine months and has proven to be functional, durable, and of good cosmesis.

