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**COMPARISON OF BRACE ADHERENCE IN PONSSETI CLUBFOOT
TREATMENT: EARLY RESULTS OF MARKEL AND MITCHELL BRACES**

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Study performed at Children's Hospital, Boston, Massachusetts, USA

Purpose:

Several authors have shown that bracing adherence leads to decreased recurrence rates of Ponseti clubfoot treatment. Difficulties with the Markel brace have led many clinicians to adopt the Mitchell brace instead. The purpose of this study was to compare the early adherence rates of the two braces.

Methods:

All patients treated for idiopathic clubfoot from 2002-2007 were retrospectively reviewed. There were three cohorts: patients treated in Markel braces, patients who were started in Markel braces but due to difficulties with adherence were switched to the Mitchell brace, and patients started in the Mitchell brace. Gender, Dimeglio score prior to treatment, number of casts, length of treatment thus far, and braces worn were recorded. Adherence rates at six and twelve months of age were calculated for all three cohorts.

Results:

161 patients were included in the study. 146 were initially treated with Markel braces; fifteen of those switched to Mitchell braces after difficulty with adherence. Fifteen patients were started in Mitchell braces after the casting phase of treatment. The adherence rates of Markel brace wearers who have reached six and 12 months of age were 64% and 59%, respectively. Eight of the Mitchell brace users have reached six months of age and four of those have reached 12 months of age; adherence is 100%. Thirteen of those switching from Markel to Mitchell have reached 12 months of age; adherence is 100%.

Conclusion:

Early results indicate that Mitchell braces have substantially better adherence than Markel braces in Ponseti clubfoot treatment. Mitchell braces should be utilized for clubfoot treatment; the Markel brace should be abandoned for this purpose.

Significance:

Brace adherence is an intermediate predictor of recurrence in the Ponseti technique for clubfoot treatment. Cost assessment indicates that the marginal increase in cost of the Mitchell brace is far outweighed by the anticipated decreased recurrence rates.