

CLUBFOOT RELAPSES: NATURAL HISTORY AND THE EFFECTS OF FOOT HYPERABDUCTION

Matthew Lovell, BS, Lori Dolan Ph.D, Ignacio Ponseti, M.D.,
Jose A Morcuende M.D., Ph.D

University of Iowa
Iowa City, Iowa, U.S.A.

Background: Clubfoot can be effectively treated with the Ponseti method, but relapses are common if not braced. This study evaluates the long-term natural history of relapses and the effect of foot hyperabduction.

Methods: Consecutive case-series from 1948 through December 2000. A total of 320 patients (502 clubfeet) were evaluated. None of the patients had previous foot surgery except tendoachilles tenotomy (7%). Two groups were analyzed based on hyperabduction in last cast and brace: Group I: not maximum abduction (n=291). Group II: with maximum abduction (n= 211).

Results: 70% of patients were male, 57% had bilateral deformity, and 51% had left side involvement. Clubfoot correction was obtained in 286/291 (98%) of group I and 209/211 (99%) of group II. In group I, 170 (58%) had a relapse compared to 59 (28%) in group II ($p<0.0001$). 91% of relapses occur before the age of five years, but relapses may occur up to eleven years of age. Noncompliance with the brace was similar in both groups (65% vs 61%) and relapses were related to non-compliance ($p=0.001$). Surgical releases decreased from 11% in group I to 4% in group II ($p=0.004$), and anterior tibialis transfer from 51% in group I to 15% in group II ($p<0.0001$).

Conclusion: By 5 years of age less than 10% of feet will relapse, but the tendency to may persist until 11 years of age. Maximum abduction of the last cast and brace have significantly reduced relapses and the need for extensive corrective surgery.