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An external validation of the ETVSS for both short-term and long-term predictive adequacy in 104 pediatric patientsGerben Breimer¹, Deborah Sival¹, Marjolein Brusse-Keizer², Eelco Hoving¹¹ University Medical Center Groningen, The Netherlands² Medisch Spectrum Twente, Enschede, The Netherlands

Introduction: This study aims to provide external validation of the "Endoscopic Third Ventriculostomy Success Score (ETVSS)" for both short-term and long-term predictive adequacy.

Methods: Between 1998 and 2007, we collected clinical follow-up data (after 6 and 36 months) of all 104 hydrocephalic children (<18 years of age) treated by endoscopic third ventriculostomy (ETV) in our hospital. Predictive adequacy of ETVSS for 6- and 36-month periods was tested by means of an unpaired t test, Hosmer-Lemeshow "goodness-of-fit" test, and area under the receiver operating characteristic curve.

Results: Mean follow-up was 73.4 months. For both the short-term (6 months) and the long-term (36 months) periods, the mean predicted probability of ETV for the patients with successful ETV treatment was significantly higher than in the patients with failed ETV treatment. The areas under the curve for the short- and long-term periods were, respectively, 0.82 (95% CI 0.71-0.92) and 0.73 (95% CI 0.62-0.84). For patients with moderate ETVSS (50-70), the median age at first ETV was significantly higher for patients with successful ETV for both short- and long-term periods.

Conclusion: In hydrocephalic children, the ETVSS is a useful tool for prediction of outcome after ETV treatment. The ETVSS is more adequate in predicting short-term than long-term success. In our population, it is suggested that success rate for patients with moderate ETVSS could be improved if more weight is attributed to age at first ETV.