Purpose: To evaluate the efficacy of a second Ahmed Glaucoma Valve after a first device has failed in pediatric patients suffering from glaucoma.

Methods: We made a retrospective chart review of all patients younger than 15 years of age that underwent Ahmed Glaucoma Valve implantation from December 1994 through March 2007. Eyes with one or two valves were included. We compared results in terms of intraocular pressure control and survival time according to Kaplan-Meier analysis.

Results: Ninety-eight eyes of 72 patients were included. In 44 eyes, a second Ahmed Glaucoma Valve was implanted, after failure of the first device. The median follow-up time was 31 months (range 1-129) in the first group and 25 months (range 1-130) in the second group. Cumulative probabilities of success according to Kaplan-Meier survival curves were 63.1%, 57.1%, 50.3%, 48.8%, 39.5% and 37.9% at 12, 24, 36, 48, 60 and 72 months of follow-up in the first valve group. At the same intervals but in the second valve group, the probabilities of success were 65.9%, 55.3%, 45%, 41.5%, 41.5% and 31.6%. The differences between the two groups were not statistically significant (p=0.846). Mean intraocular pressure in the follow-up period was 16.3 ± 1.8 mmHg in the first group and 16.1 ± 1.3 mmHg in the second group.

Conclusions: After a first Ahmed Glaucoma Valve has failed in refractory pediatric glaucoma, the implantation of a second device yields the same effect in lowering intraocular pressure and has comparable survival time.