

# Clinical Pearl: The Long-Term Effects of Neonatal Hypoglycemia in At-Risk Infants

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***“The diagnosis and long-term effects of neonatal hypoglycemia continue to be controversial. In a recent prospective study by Shah and colleagues of the long-term effects of neonatal hypoglycemia and its treatment in children at the corrected age of 9 to 10 years, the authors’ definition was < 47 mg/dl (1).”***

The diagnosis and long-term effects of neonatal hypoglycemia continue to be controversial. In a recent prospective study by Shah and colleagues of the long-term effects of neonatal hypoglycemia and its treatment in children at the corrected age of 9 to 10 years, the authors’ definition was < 47 mg/dl (1). Severe hypoglycemia in this study was 36-46 mg/dl (1). In the 480 children ages 9-10 years of age who were tested, there were no statistically significant differences in educational achievement in the children who experienced hypoglycemia (173) which was diagnosed and treated, compared with the group that did not experience neonatal hypoglycemia (299) (1). In addition, in this study, at-risk newborns included late preterm, infants of diabetic mothers, and term infants: small or large for gestational age (1). Newborns with hyperinsulinism were not included(1).

***“ It was demonstrated that in the 681 babies who were randomized to dextrose gel and 678 randomized to placebo at 1 hour of age (2), at two years of age corrected, there was no significant difference in neurosensory impairment, although the study could have been underpowered to detect a small but clinically significant difference in risk (2).”***

Another study of prophylactic oral dextrose gel from New Zealand by Edwards and colleagues of 1359 newborns was placebo-con-

trolled and randomized. Plasma glucose levels were monitored. It was demonstrated that in the 681 babies who were randomized to dextrose gel and 678 randomized to placebo at 1 hour of age (2), at two years of age corrected, there was no significant difference in neurosensory impairment, although the study could have been underpowered to detect a small but clinically significant difference in risk (2).

What is also interesting is that there have been previous clinical studies, such as the one by Kaiser et al., that demonstrated that at-risk newborns who were also studied at a corrected age of 10 years had an association between early transient hypoglycemia and lower academic achievement (3, 4).

In the editorial by Rozance, the controversy continues to be discussed (3).

## References

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