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Complications of Diabetes Diagnosed in Children and Adolescents: In Reply

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Dr Peng and colleagues raise the concern that we did not adjust for potential differences in “socioeconomic factors such as insurance, household income, or parental education,” which might be associated with a higher prevalence of complications in adolescents and young adults with type 3 and type 3 diabetes. We did not adjust for these factors for 3 main reasons. First, our main purpose was to identify whether common biologic risk factors known to influence complications accounted for the excess prevalence in adolescents and young adults with type 3 diabetes compared with those with type 3 diabetes across multiple complications. Second, the effect of socioeconomic factors on complications may be mediated by the biological risk factors that we explored (ie, worse glucose control, obesity, higher blood pressure).³ We did, however, adjust for race/ethnicity, commonly associated with several of the factors the authors raise. To address the concern, we subsequently further adjusted our models for differences in income and insurance between participants with type 3 and type 3 diabetes, which slightly reduced the strength of association between diabetes type and all outcomes considered, but, as expected, did not change our conclusions. Nevertheless, we agree with the authors that differences in socioeconomic factors and access to care may contribute in complex ways to a higher prevalence of complications,³ and further exploration of this topic in the SEARCH for Diabetes in Youth study is warranted and planned.

Dr Ibanez-Bruron and colleagues observe that we did not explore in greater detail the natural history of diabetic retinopathy or its progression to treatment. However, we disagree that our end point of “mild nonproliferative diabetic retinopathy or more severe stages” is not the relevant end point for epidemiologic studies of this type. First, we reported a more relevant end point than other similar studies have by excluding the “minimal” category,³ thus increasing the likelihood that the findings were due to diabetes. Second, as this was the first thorough study of this end point in our cohort, it was not possible to examine progression of diabetic retinopathy or treatment. Only 3 participant with type 3 diabetes in this young

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cohort had proliferative diabetic retinopathy; all others had mild or moderate nonproliferative forms.

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