



# Treatable Diabetic Retinopathy Is Extremely Rare Among Pediatric T1D Exchange Clinic Registry Participants

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The Diabetes Control and Complications Trial (DCCT) and the Epidemiology of Diabetes Interventions and Complications (EDIC) studies demonstrated that intensive diabetes management provides for marked reduction in risk for diabetic retinopathy (DR) (1,2). Nevertheless, guidelines for DR screening in the post-DCCT era have remained largely unchanged. Current American Diabetes Association guidelines for youth with type 1 diabetes suggest annual eye exams at the start of puberty or at age  $\geq 10$  years, whichever is earlier, once the youth has had diabetes for 3–5 years (3). We sought to examine how often treatable DR was reported among youth enrolled in the T1D Exchange Clinic Registry (4).

Information about treatment for DR was collected from T1D Exchange Clinic Registry participants via a participant- or parent-completed questionnaire asking, “Have you ever received treatment for diabetic retinopathy (change in the retina of the eye due to diabetes), such as with laser, injections into or around the eye or vitrectomy surgery?” Youth included in the analysis were  $< 21$  years of age and not pregnant.

Of the 12,535 youth included in this analysis (mean age  $12 \pm 4$  years, mean type 1 diabetes duration  $5 \pm 4$  years, 48% female, mean lifetime average HbA<sub>1c</sub>

$8.6\% \pm 1.4\%$ ), treatment for DR was self-reported by 45 subjects (0.36%). Notably, of those 45 subjects who reported DR and for whom an ophthalmologist report was available in the medical record ( $n = 12$ ) or for whom treatment history was known ( $n = 33$ ), none (0%) had actually received treatment for DR.

Thus, treated DR is extremely rare in children enrolled in the T1D Exchange Clinic Registry. Our findings support the notion by Huo et al. (5) that screening for DR in all youth with type 1 diabetes solely on the basis of age and diabetes duration may be unjustified. Future studies may indicate that DR screening guidelines can be improved via inclusion of other risk factors such history of glycemic control, presence of microalbuminuria, hypertension, and dyslipidemia.

The negligible yield of possibly treatable and treated eye lesions compounded by the considerable financial burden associated with eye exams suggests that current guidelines for DR screening in youth with type 1 diabetes may not be cost-effective. While additional studies are needed before firm recommendations can be made, liberalization of pediatric DR screening guidelines may be justified and could allow for utilization of saved resources in areas historically lacking support such as mental health

and nutrition counseling. Formal studies utilizing longitudinal collection of retinal photographs are required to provide the requisite data to confirm the frequency of treatable eye disease and the impact of less rigorous screening frequency.

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